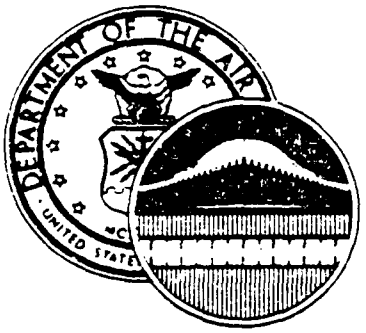

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

MISSILE FACILITIES SPECIALIST

AFSC 411X2A

AFPT 90-411-815

FEBRUARY 1989

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
AIR TRAINING COMMAND
RANDOLPH AFB, TEXAS 78150-5000

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PREFACE

This report presents the results of an Air Force occupational survey of the Missile Facilities Specialist (AFSC 411X2A) career ladder. Authority for conducting occupational surveys is contained in AFR 35-2. Computer products used in this report are available for use by operations and training officials.

Lieutenant Earl Nason developed the survey instrument, Staff Sergeant Joe Seitz provided computer programming support, and Ms Raquel A. Soliz provided administrative support. Lieutenant Mary A. Dom analyzed the data and wrote the final report. This report has been reviewed and approved for release by Lieutenant Colonel Charles D. Gorman, Chief, Airman Analysis Branch, Occupational Analysis Division, USAF Occupational Measurement Center.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies may be requested from the Occupational Measurement Center, Attention: Chief, Occupational Analysis Division (OMY), Randolph AFB, Texas 78150-5000.

RONALD C. BAKER, Colonel, USAF
Commander
USAF Occupational Measurement Center

JOSEPH S. TARTELL
Chief, Occupational Analysis Division
USAF Occupational Measurement Center

SUMMARY OF RESULTS

1. Survey Coverage: The survey sample includes 66 percent of all members assigned to the AFSC 411X2A career ladder. Most are assigned to SAC (97 percent) and all are stationed in the CONUS.

2. Career Ladder Structure: Missile Facilities Specialists are grouped into four basic job clusters and one small independent job: Missile Facilities Maintenance Team Members, Shop Maintenance Technicians, Supervisors and Quality Assurance Personnel, Maintenance Control Personnel, and Technical Order Library Personnel. Ninety-five percent of the survey sample is represented by these jobs.

3. Career Ladder Progression: Progression through the skill levels is normal, with 3-/5-skill level personnel performing technical tasks. Seven-skill level personnel are acting as technical advisors and supervisors.

4. Career Ladder Documents: The AFR 39-1 Specialty Descriptions were accurate for the skill levels. Several Specialty Training Standard (STS) paragraphs should be examined for training purposes, but only one area of the Plan of Instruction (POI) needs to be examined.

5. Job Satisfaction: Seventy-two percent of the members in this career ladder find their jobs interesting. Over 80 percent feel their talents and training are well utilized, and two-thirds plan to reenlist. This AFSC is comparable in job satisfaction to other mission equipment maintenance personnel. The data show that, overall, this career ladder has improved across almost all job satisfaction indicators since the last survey. Satisfaction indicators vary across the jobs.

6. Implications: Missile Facilities Specialists perform diverse jobs within the career ladder; this makes training documents difficult to validate across skill levels and time in service. Using jobs to analyze the STS and POI showed better support for these documents, but some areas of the STS should be reviewed for accuracy. The necessity of sending Shop Maintenance Technicians through the basic course should be reconsidered, since these members are using very little of this training on their job. In addition, first-enlistment personnel are waiting an average of 69 days before entering the team training that will upgrade them to a 5-skill level. Job satisfaction is equal to other similar career ladders, and has improved since the last survey in 1982.

OCCUPATIONAL SURVEY REPORT
MISSILE FACILITIES SPECIALIST CAREER LADDER
(AFSC 411X2A)

INTRODUCTION

This is a report of an occupational survey of the Missile Facilities Specialist career ladder completed by the USAF Occupational Measurement Center in January 1989. The previous OSR for this career ladder was published in June 1982. The 3330th Technical Training Wing at Chanute AFB IL requested the survey to evaluate the entry-level course, C3ABR41132A 000, Apprentice Missile Facilities Specialist, partly because changes in weapons systems components have occurred. Maintenance tasks have been added to the STS and POI for several types of equipment: LF/LCF brine chiller and power systems, solid-state circuitry, guidance and control chiller unit and test station, and the Peacekeeper missile at FE Warren Air Force Base.

Background

Missile Facilities Specialists maintain missile support facilities and equipment, such as launch facility doors, missile moving equipment, environmental control systems, diesel engine units, and maintenance work platforms. They also operate and monitor support equipment, particularly fault display and check panels. Members work at the missile site or support base for the Minuteman II, III, or Peacekeeper missiles.

The mandatory entry-level Apprentice Missile Facilities Specialist course is 17 weeks long at Chanute AFB, with classes of eight or nine students starting every 10 days. About 180 students went through the program in 1988. The attrition rate usually runs close to 10 percent.

SURVEY METHOD

Inventory Development

Data for this survey were collected using USAF Job Inventory AFPT 90-411-815 (October 1987). The Inventory Developer reviewed pertinent career ladder documents, the previous OSR, and the previous job inventory, and prepared a tentative task list. The task list was then validated through personal interviews with 40 subject-matter experts in operational units at the following six bases:

LOCATION	MAJCOM	REASON FOR VISIT
Chanute AFB IL	ATC	Technical Training School
Vandenburg AFB CA	SAC	Multiple Launch Tasks Special Evaluation Squadron
Ellsworth AFB SD	SAC	Missile Maintenance Squadron
FE Warren AFB WY	SAC	Peacekeeper Missiles
Minot AFB ND	SAC	Missile Maintenance Squadron
Grand Forks AFB ND	SAC	Missile Maintenance Squadron

The final job inventory listed 748 tasks grouped into 14 duty headings and a number of background questions asking for such information as duty title, duty AFSC, time in service, time in the career ladder, previous functional areas assigned, and team training status.

Survey Administration

Consolidated Base Personnel Offices at operational bases worldwide administered the surveys to all eligible DAFSC 411X2A personnel at the 3-, 5-, and 7-skill levels. Participants were selected from a computer-generated mailing list provided by the Air Force Human Resources Laboratory (AFHRL). Personnel not considered eligible to fill out the inventory booklets were those in hospital status, those in PCS status, and those who had not been in their present job for at least 6 weeks.

All individuals who filled out a survey completed an identification and biographical information section first. Next, they went through the booklet and checked each task performed in their current job. Finally, they went back and rated each task they had checked on a 9-point scale reflecting relative time spent on each task compared to all other tasks. Ratings ranged from 1 (indicating a very small amount of time spent) to 9 (indicating a very large amount of time spent). The relative percent time spent on tasks for each inventory was computed by first totaling all rating values on the inventory, and then dividing each task's rating by this total and multiplying the result by 100. The percent time spent ratings from all inventories were combined and used with percent member performing values to describe the various groups in the career ladder.

Survey Sample

Participants in the survey were carefully selected to ensure proportional representation across major commands (MAJCOM) and military paygrade groups. Tables 1 and 2 show how the final survey sample compared to the actual population of the career ladder in terms of the distribution across MAJCOMs and paygrades. As illustrated, the survey sample is representative of the overall AFSC 411X2A population. The final sample contained 640 members, which was 68 percent of those assigned (940) and 76 percent of those eligible to be surveyed (839). Eighty-five percent of the sample were 5- and 7-skill level. Most of the members in the sample, about 97 percent, were assigned to SAC, with the rest in ATC.

TABLE 1

COMMAND REPRESENTATION OF AFSC 411X2A
SURVEY SAMPLE

COMMAND	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
SAC	90	97
ATC	10	3

Total Assigned*	940
Total Number Eligible	839
Total in Sample	640
Percent of Assigned	68%
Percent of Eligible	76%

* As of January 1988

TABLE 2

PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
AMN	42	39
E-4	19	19
E-5	21	22
E-6	12	13
E-7	6	8

* As of January 1988
NOTE: Columns may not add to 100 percent due to rounding

Data Processing and Analysis

Once the job inventories are received from the field, task responses and background information are optically scanned and become one computer file. Biographical data, such as name, duty AFSC, and time in career ladder, are manually entered to form another file. The two files are then merged to form one complete case record for each respondent. Comprehensive Occupational Data Analysis Programs (CODAP) are used to analyze the records and create a job description for each respondent, as well as composite job descriptions for particular groups of respondents.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected E-6 and E-7 supervisors completed either a training emphasis (TE) or task difficulty (TD) booklet. These booklets were processed separately from the job inventories and the TE and TD data were used in several analyses discussed later in this report.

Task Difficulty (TD). TD is defined as the length of time the average airman needs to learn how to perform a given task. Sixty experienced supervisors rated the difficulty of the tasks in the inventory on a 9-point scale ranging from 1 (easy to learn) to 9 (very difficulty to learn). Ratings were standardized so tasks of average difficulty would have a value of 5.0. Reliability of the data is adequate for the sixty supervisors.

Training Emphasis (TE). TE is a rating of which tasks require structured training for first-term AFSC 411X2A personnel. Structured training is defined as training provided by resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. Fifty-four experienced supervisors completed TE booklets. They rated the tasks in the inventory on a 10-point scale ranging from no training required (0) to much structured training required (9). Reliability of this data for the fifty-four supervisors is acceptable.

When TE ratings are used with other information, such as percent members performing and task difficulty, they can provide valuable insight into the training requirements for first-term AFSC 411X2A personnel and can help validate the need for organized training within the career ladder.

SPECIALTY JOBS
(Career Ladder Structure)

A vital part of the USAF occupational analysis program is the examination of the career ladder job structure. Based on member responses to survey questions, the tasks performed by career ladder personnel are examined and jobs identified according to the similarity of tasks and the relative time they spent performing the tasks. The resulting job structure is then compared to official career ladder documents, such as the AFR 39-1 Specialty Descriptions and the Specialty Training Standard, to review for accuracy and completeness of those documents. This helps career ladder managers gain an understanding of current utilization patterns.

For this report, the career ladder structure is described in terms of job clusters and independent job types. The job is the basic unit of job analysis, and represents a specific group of individuals performing basically the same tasks and spending similar amounts of time on those tasks. When job members perform tasks in common with other groups, they merge to form a larger unit of related jobs called a job cluster. Specialized jobs too unique to fit within a job cluster are called independent job types.

Overview

The main mission of the career ladder is to maintain the launch facilities and launch control facilities for Minuteman and Peacekeeper intercontinental ballistic missiles. Overall, the AFSC 411X2A career ladder sample contains four basic job clusters and one independent job type: Missile Facilities Maintenance Team Members, Shop Maintenance Technicians, Maintenance Supervisors and Quality Assurance Personnel, Maintenance Control Personnel, and Technical Order Library Personnel. Very few tasks are performed by high percentages of 411X2A personnel due to the extreme diversity of each job, particularly between the Missile Facility Maintenance Team Members and Shop Maintenance Technicians.

All of the members of this career ladder are assigned to the CONUS. Almost all are assigned to SAC (97 percent). The average total active federal military service (TAFMS) for career ladder members is 77 months, but the average time in the career ladder is 58 months. Thirty-four percent are supervising at least one person. Eighty-five percent possess a 5- or 7-skill level, and the average amount of education is 13 years.

The four job clusters and one independent job type that were identified within the AFSC 411X2A career ladder are illustrated in Figure 1. Within many of the job clusters, job variations are noted in which people are doing unique tasks or are spending a large amount of time on a particular duty. The following list identifies the major job clusters and the specific jobs that fall under those clusters, the computer product number (ST or GP), and the number of people (N=).

AFSC 411X2A JOBS

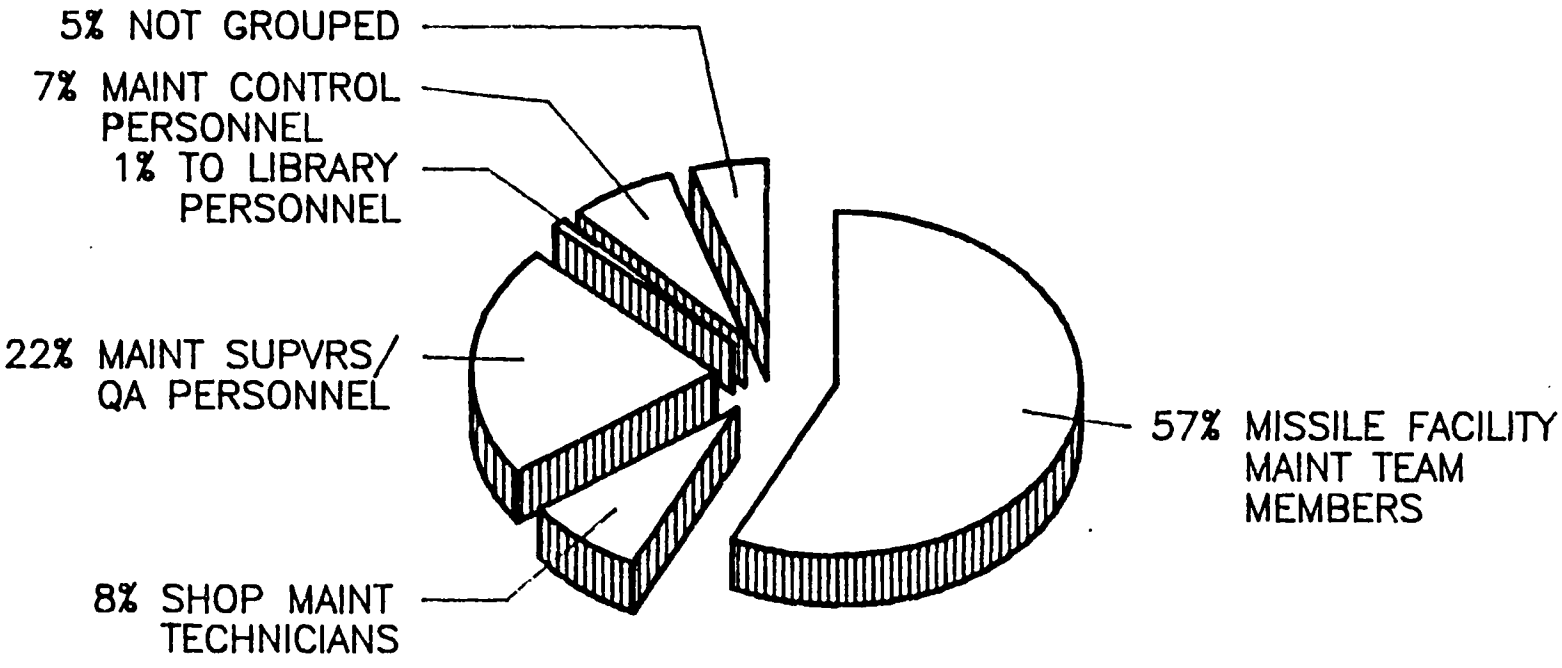

FIGURE 1

I. MISSILE FACILITY MAINTENANCE TEAM MEMBERS (ST0019, N=366)

A. Facility and Periodic Maintenance Team Technicians (ST0093, N=93)
B. LF/LCF Power Generation Maintenance Technicians (ST0077, N=7)
C. LF/LCF Environmental Control System Technicians (ST0101, N=5)

II. SHOP MAINTENANCE TECHNICIANS (ST0039, N=52)

A. PREL Team Technicians (ST0148, N=39)
B. PREL Support Vehicle Maintenance Technicians (ST0080, N=8)
C. Minuteman III PREL Team Technicians (ST0086, N=7)

III. MAINTENANCE SUPERVISORS AND QUALITY ASSURANCE PERSONNEL (ST0011, N=142)

A. Shop Chiefs (ST0095, N=41)
B. Quality Assurance Inspectors/Evaluators (ST0129, N=16)
C. Maintenance Support Shop NCOICs (ST0071, N=8)
D. Technical Engineers (ST0066, N=5)
E. Periodic Maintenance Team Chiefs (ST0085, N=9)
F. Facility Maintenance Team Chiefs (ST0108, N=9)
G. Equipment Control NCOICs (ST0082, N=7)
H. Training NCOs (ST0114, N=8)
I. Quality Assurance Supervisors (ST0106, N=6)
J. Administrative Personnel (ST0048, N=5)

IV. MAINTENANCE CONTROL PERSONNEL (ST0012, N=46)

A. Parts Research Technicians (ST0102, N=5)
B. Maintenance Processing Technicians (ST0055, N=5)
C. Briefers and Debriefers (ST0084, N=7)
D. Job Control Personnel (ST0076, N=21)

V. TO LIBRARY PERSONNEL (ST0065, N=5)

Ninety-five percent of the survey respondents are represented in the above job clusters and independent job types. The remaining 5 percent did not group with any of the job groups because of the uniqueness of their jobs. The job titles of those not grouped include Instructor/Resident Writer, PMT OJT Manager, NCOIC Driver's Training, Unit PRP Monitor, Peacekeeper Program Manager, and Maintenance Manpower Facility Monitor.

Job Descriptions

The following paragraphs discuss the background and duties performed by members of the job clusters, jobs, and independent job types. See Tables 3, 4, and 5 for a contrast of background information, duties performed, and equipment used. Appendix A provides a list of tasks commonly performed by each job cluster.

TABLE 3

SELECTED BACKGROUND DATA FOR 411X2A CAREER LADDER JOBS

	MISSILE MAINTENANCE	SHOP MAINTENANCE	SUPERVISORS & QA	MAINTENANCE CONTROL	TO LIBRARY PERSONNEL
NUMBER IN GROUP	366	52	142	46	5
PERCENT OF TOTAL SAMPLE	57%	8%	22%	7%	1%
DAFSC DISTRIBUTION (PERCENT RESPONDING)					
41132A	19%	21%	1%	0	0
41152A	63%	60%	16%	42%	40%
41172A	17%	17%	82%	52%	60%
AVERAGE GRADE	E-3	E-3/4	E-6/7	E-5	E-6/7
AVERAGE MONTHS IN CAREER LADDER	37	46	103	89	106
AVERAGE MONTHS IN SERVICE	46	54	146	115	147
PERCENT FIRST ENLISTMENT	69%	62%	2%	7%	0
PERCENT SUPERVISING	22%	37%	68%	28%	20%
AVERAGE NUMBER OF TASKS PERFORMED	200	172	55	14	16

* Indicates less than 1 percent

TABLE 4

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS
(PERCENT MEMBERS RESPONDING)

DUTIES	MISSILE MAINTENANCE (N=366)	SHOP MAINTENANCE (N=52)	SUPERVISORS & QA (N=142)	MAINTENANCE CONTROL (N=46)	TO LIBRARY PERSONNEL (N=5)
A. ORGANIZING AND PLANNING	1	2	17	19	5
B. DIRECTING AND IMPLEMENTING	1	2	17	12	3
C. INSPECTING AND EVALUATING	3	4	25	6	53
D. TRAINING	1	2	9	3	1
E. PERFORMING ADMINISTRATIVE FUNCTIONS	5	7	24	59	38
F. MAINTAINING SUPPORT VEHICLES	*	47	1	0	0
G. MAINTAINING GUIDANCE AND CONTROL (G & C) LIQUID COOLING SYSTEMS	*	11	*	0	0
H. MAINTAINING G & C CONDITIONING UNIT (GCCU) SYSTEMS	*	1	*	0	0
I. MAINTAINING GCCU TEST EQUIPMENT	0	*	*	0	0
J. MAINTAINING LF AND LCF POWER GENERATION AND DISTRIBUTION SYSTEMS	38	*	1	0	0
K. MAINTAINING MISCELLANEOUS LF AND LCF POWER DISTRIBUTION SYSTEMS	3	*	*	0	0
L. MAINTAINING LF AND LCF ENVIRONMENTAL CONTROL SYSTEMS (ECS)	33	3	*	0	0
M. PERFORMING MISSILE FACILITY MAINTENANCE	9	15	1	*	0
N. PERFORMING GENERAL MAINTENANCE FUNCTIONS	5	6	4	1	0

* Indicates less than 1 percent
NOTE: Columns may not add to 100 percent due to rounding

TABLE 5

EQUIPMENT USED ACROSS AFSC 411X2A JOBS
(PERCENT USING)

	MISSILE MAINTENANCE (N=366)	SHOP MAINTENANCE (N=52)	SUPERVISORS & QA (N=142)	MAINTENANCE CONTROL (N=46)	TO LIBRARY PERSONNEL (N=5)
CARRYALL	54	25	43	15	20
PICK-UP TRUCK	69	77	75	37	80
UTILITY VAN	58	29	35	13	0
AMMETERS	96	96	32	4	0
BATTERY CHARGES	84	100	30	2	0
BELT ALIGNMENT TOOLS	97	37	25	2	0
DIFFERENTIAL PRESSURE GAUGES	91	56	25	2	0
ELECTRIC DRILLS	88	96	38	4	0
ELECTRONIC LEAK DETECTORS	95	98	30	2	0
FAULT LOCATING INDICATORS	78	33	19	2	0
FUEL TRANSFER PUMPS	82	27	17	2	0
FREQUENCY METERS	92	98	32	4	0
MANOMETERS	95	27	25	2	0
POWER SYSTEM VERIFICATION BOXES	96	6	25	2	0
VIBROGROUNDS	72	17	16	2	0
FORKLIFT	10	73	25	11	0
BENCH GRINDERS	16	77	13	0	0
BRINE CHILLER TEST STANDS	5	94	6	0	0
CHROMATE MIXING KITS	6	90	6	0	0

TABLE 5 (CONTINUED)

EQUIPMENT USED ACROSS AFSC 411X2A JOBS
(PERCENT USING)

	MISSILE MAINTENANCE (N=366)	SHOP MAINTENANCE (N=52)	SUPERVISORS & QA (N=142)	MAINTENANCE CONTROL (N=46)	TO LIBRARY PERSONNEL (N=5)
FLOW METERS	48	87	16	2	0
GAS WELDING AND CUTTING EQUIPMENT	10	79	8	0	0
G & C LIQUID COOLING ASSEMBLIES	12	75	8	0	0
GCCU TEST BENCHES	1	92	6	0	0
GCCU TEST SETS	4	88	8	0	0
OVERHEAD HOISTS	33	98	18	0	0
VEHICLE HOISTS	41	85	25	0	0
MEGOHMETERS	30	92	17	2	0
MICRON GAUGES	38	83	15	2	0
NITROGEN CYLINDERS	35	96	18	2	0
REGULATED POWER SUPPLIES	19	60	8	0	0
SALINITY TEST SETS	8	65	4	0	0
ULTRASONIC CLEANERS	2	94	6	0	0
VACUUM PUMPS	49	96	16	2	0
VULCANIZERS	2	88	6	0	0

I. MISSILE FACILITY MAINTENANCE TEAM MEMBERS (ST0019, N=366) comprise 57 percent of the sample. Maintaining the facilities for the Minuteman II, Minuteman III, and the Peacekeeper missiles is the basic responsibility of this job cluster. There are two specialized types of teams that perform maintenance on the launch facility (LF) and the launch control facility (LCF). The preventive maintenance team (PMT) is scheduled to perform tasks on the LF, LCF, and specialized vehicles. Ideally, they fine-tune the LF once per year and LCF twice yearly. The facilities maintenance team (FMT) is a quick reaction team that takes care of on-the-spot maintenance requests. A great deal of driving time is spent by both of these teams; sometimes 4 to 5 hours is required to get to the launch facility. PMT/FMT members are pressured to work quickly because a missile is "off-alert" when maintenance is conducted. The majority of these individuals possess a 5-skill level. Maintenance Team Members are performing an average of 200 tasks, which is more than any other job cluster. Sixty-nine percent are in their first enlistment, as is reflected in their average time in service of 46 months and the predominance of the E-3 paygrade in this job cluster. Since there is a low level of experience time in the career ladder (37 months on the average), most of these personnel go through team training, an on-the-job training course which brings most individuals up to a 5-skill level before assignment to a particular team. Only 22 percent of Maintenance Team Members are supervising.

The individuals in this job cluster spend 38 percent of their time maintaining launch facility and launch control facility power generation and distribution systems. The other area they spend so much time in (33 percent) is maintaining launch facility and launch control facility environmental control systems.

Some of the tasks they perform are:

Perform diesel engine unit test mode operations
Perform diesel engine unit manual mode operations
Perform diesel engine unit prestart checks
Raise or lower equipment by hand
Perform launch facility (LF) entry and exit procedures
Adjust air-conditioning subsystem components, other than emergency systems
Adjust brine chiller components
Adjust environmental control system pneumatic electrical switches

Within the Missile Facility Maintenance Team Members job cluster, there are three job variations. The first is the core job of Facility and Periodic Maintenance Team Technicians, which contains 341 of the 366 members of this job cluster. One of the two small jobs is the LF/LCF Power Generation Maintenance Technicians (N=7) who, in contrast to the core job, spend two-thirds of their time maintaining LF and LCF power generation and distribution systems. They are very junior personnel and average less than 2 years in the service, as is the case with LF/LCF Environmental Control System Technicians (N=5). The members of this job spend 79 percent of their time maintaining environmental control systems.

II. SHOP MAINTENANCE TECHNICIANS (ST0039, N=52) work in groups called power, refrigeration, and electric (PREL) teams. Detailed maintenance that requires special equipment and is time-consuming is performed by these individuals in a workshop environment at the strategic missile support base. They comprise 8 percent of the sample and, like the PMT and FMT members, are mostly 5-skill level. Sixty-two percent of the members in this job cluster are first-termers, but they have slightly more time in service than the Maintenance Team Members, and a higher percentage of these individuals are supervising (37 percent). Shop Maintenance Technicians perform an average of 172 tasks, and as a group spend almost half their time in vehicle maintenance (47 percent). About 15 percent of their time is spent performing missile facility maintenance, and they spend about one-tenth of their time (11 percent) maintaining guidance and control liquid cooling systems. Some of the typical tasks performed by this job cluster are:

Inventory tools
Adjust support van hoist components
Clean G&C liquid cooler filter assemblies
Perform operational checkouts of transporter erector ECS
Perform operational checkouts of support van electrical systems
Perform operational checkouts of G&C 400 hertz liquid coolant pump assemblies
Perform periodic inspections of PAC ECS

Among the job variations is the core job of PREL Team Technicians (N=39), who comprise 75 percent of the Shop Maintenance Technicians. They are the more senior people of this job cluster, with an average of 61 months in service and 47 percent supervising at least one person. PREL Support Vehicle Maintenance Technicians (N=8) are a small group of members who focus on maintaining support vehicles (63 percent time spent in this duty) and spend 13 percent of their time maintaining guidance and control liquid cooling systems. They are the most junior job in this job cluster, with an average of 31 months in the service and no personnel supervising. Another small job consists of the Minuteman III PREL Team Technicians (N=7), who are all at bases with the Minuteman III missile. While these members spend over half of their time maintaining support vehicles (57 percent), they are the only group spending any time maintaining guidance and control conditioning unit (GCCU) systems (2 percent) and GCCU test equipment.

III. MAINTENANCE SUPERVISORS AND QUALITY ASSURANCE PERSONNEL (ST0011, N=142) make up 22 percent of the sample. This job cluster is the most senior, with an average time in service of 146 months. Over four-fifths of the members of this group possess a 7-skill level and 68 percent are supervising. About one-fourth of their time is spent in tasks relating to inspecting and evaluating, such as writing APRs, reviewing inspection reports, inspecting work areas, and initiating technical order changes. Another area in which a considerable amount of time is spent is in performing administrative functions

(24 percent time spent), such as making entries on AF Forms 623/623A (On-the-Job Training Record) or AF Forms 1800 (Operator's Inspection Guide and Trouble Report (General Purpose Vehicles)). They spend about equal amounts of time in the duties of organizing/planning (17 percent) and directing/implementing (17 percent). These tasks include counseling personnel, determining requirements for equipment or supplies, reviewing policy changes, determining work priorities, and performing inventory for equipment or supplies. Job variations for this area include Shop Chiefs (N=41), who are supervising Facilities/Periodic Maintenance Teams. Ninety percent of the members of this job are supervising.

Quality Assurance Inspectors/Evaluators (ST0129, N=16) spend 75 percent of their time inspecting and evaluating and performing administrative functions. Only 38 percent of these members are supervising. Maintenance Support Shop NCOICs (ST0071, N=8) not only spend a great deal of time on administrative functions, but also spend one-fourth of their time performing general maintenance functions, such as maintaining handtools or tool boxes, performing an inventory of tools, and disposing of waste oil. Technical Engineers (ST0066, N=5) are a unique group in that only one of the five is supervising. They are directing, planning, inspecting, and performing administrative functions, but they also spend 16 percent of their time maintaining launch facility and launch control facility power and distribution systems. Most of this last duty consists of troubleshooting equipment. Periodic Maintenance Team Chiefs (ST0085, N=9) supervise members of the PMTs and perform such tasks as inspecting work areas, writing APRs, briefing or debriefing maintenance, performing site general housekeeping functions, and performing Minuteman entry control system procedures. Another similar job is that of the Facility Maintenance Team Chiefs (ST0108, N=9) who supervise the FMT members, but spend more time organizing, planning, directing, and implementing and less time inspecting than PMT Chiefs. Equipment Control NCOICs (ST0082, N=7) are supervising and spending almost one-third of their time inspecting (30 percent). They spend a relatively large amount of time extracting data from and entering data into the expanded Minuteman data analysis system (EMDAS), as well as writing APRs, inspecting work areas, and directing the utilization of equipment, supplies, or workspace. Those members who spend a large amount of time in training other personnel are the Training NCOs (ST0114, N=8). They are performing such tasks as inspecting training records, reviewing CDCs with subordinates, evaluating the progress of trainees, and determining OJT requirements. The individuals supervising quality control personnel are the Quality Assurance Supervisors (ST0106, N=6). This is a small group of senior people who write and review QA reports, as well as evaluate and implement quality assurance programs and procedures. The last small job variation is that of Administrative Personnel (ST0048, N=5), a group that is directing and implementing as well as performing administrative functions. Examples of tasks performed by these people include writing and reviewing correspondence, performing supervisory field visits, compiling information for reports or staff studies, and reviewing policy changes.

IV. MAINTENANCE CONTROL PERSONNEL (ST0012, N=46) are performing a multitude of administrative functions. They spend 59 percent of their time in that duty and about one-fifth of their time organizing and planning. The average

time in service is 115 months; all possess 5- or 7-skill levels and the predominant paygrade is E-5. Only 28 percent are supervising personnel. Maintenance Control Personnel spend most of their time on just a few tasks--the average is 14 tasks. The following list is typical of this job:

Enter maintenance data into Expanded Minuteman Data Analysis System (EMDAS)
Extract maintenance data from EMDAS
Make entries on local forms
Determine work priorities
Coordinate maintenance with specialist work centers or staff agencies

There are four job variations in the Maintenance Control Personnel area. Parts Research Technicians (ST0102, N=5) are the most senior job in this job cluster, with an average of 131 months in service. Three of the five members are supervising personnel. They are researching and ordering equipment needed to support missile facilities maintenance; all are assigned to materiel control. Maintenance Processing Technicians (ST0055, N=5) control maintenance equipment using the Expanded Minuteman Data Analysis System (EMDAS) and classify equipment as usable, reparable, or condemned. Briefers and Debriefers (ST0084, N=7) are supervising some people, but have the additional duty of briefing and debriefing maintenance crews as they depart for and return from the launch facility. They also check or change work requirement file listings. Job Control Personnel (ST0076, N=21) implement daily maintenance plans and direct the performance of unscheduled maintenance requirements. They determine work priorities, coordinate maintenance with work centers, schedule maintenance, and dispatch maintenance teams. Only two are also supervising.

V. TO LIBRARY PERSONNEL (ST0065, N=5) maintain the publication and technical order files. This includes making changes to the TOs, and controlling SAC civil engineering manuals. They spend 53 percent of their time inspecting and evaluating; this includes inspecting activities and writing QA reports.

Comparison To Previous Survey

Table 6 compares the distribution of career ladder members in both the 1982 AFSC 445X0G survey sample (Minuteman Missile Facilities career ladder) and the present AFSC 411X2A sample. Eighty-seven percent of the 1982 survey respondents grouped into jobs, while about 95 percent of the members in the 1988 survey were grouped. The jobs were very similar in both survey analyses, with the core job of Missile Facilities Maintenance Team Members comprising 57 percent of both samples. The present sample was comprised of more Supervisors and Quality Assurance Personnel, but the jobs are very similar within the job clusters. Training Personnel from the previous survey were included in this job cluster. In addition, there were also more Maintenance Control Personnel than in the previous survey sample.

TABLE 6

COMPARISON OF 1982 OSR JOBS WITH PRESENT OSR JOBS

PREVIOUS SURVEY JOBS	PERCENT OF SAMPLE	CURRENT SURVEY JOBS	PERCENT OF SAMPLE
MAINTENANCE TEAM MEMBERS	57%	MISSILE FACILITY MAINTENANCE TEAM MEMBERS	57%
PREL SHOP PERSONNEL	10%	SHOP MAINTENANCE TECHNICIANS	8%
TRAINING PERSONNEL	2%	- - - - - -	
SUPERVISORS	15%	MAINTENANCE SUPERVISORS AND QUALITY ASSURANCE PERSONNEL	22%
JOB CONTROLLERS	3%	MAINTENANCE CONTROL PERSONNEL	7%
- - - - - - -		TO LIBRARY PERSONNEL	1%

ANALYSIS OF DAFSC GROUPS

An analysis of Duty AFSC groups is useful in identifying the tasks performed by the different skill levels. The distinctions made between DAFSCs are helpful for reviewing and assessing the completeness and accuracy of the AFR 39-1 Specialty Descriptions, the Specialty Training Standard (STS), and the POI, as well as identifying training needs.

The average percent of time spent performing duties by each skill level appears in Table 7. Table 8 shows the jobs performed across each of the skill levels. These tables give a good picture of the career ladder progression as the skill level increases. Since there are very few differences between the 3- and 5-skill level personnel, these two groups were analyzed as one. As can be seen by Table 7, there is a progression from performing technical tasks by the 3- and 5-skill level personnel to performance of mostly managerial tasks by the 7-skill level personnel. These trends are most particularly observed in tasks related to maintaining launch facility and launch control facility power generation systems, distribution systems, and environmental control systems.

Skill-Level Descriptions

DAFSC 41132A/41152A. There are almost four times as many 5-skill as there are 3-skill level personnel. Part of the reason for this is members are put into team training groups when they are on station, and they are brought up to the 5-skill level before being assigned to a periodic or facilities maintenance team.

Members in these duty AFSCs are spending 55 percent of their time maintaining launch facility and launch control facility power generation, power distribution, and environmental control systems. Table 9 provides a list of tasks typically performed by these skill levels. As is reflected by the tasks performed, the majority of 3- and 5-skill level members are Missile Facilities Maintenance Team Members (73 percent). Shop Maintenance Technicians comprise 10 percent of these skill levels.

DAFSC 41172A. Thirty-five percent of the sample are 7-skill level members. Most of their time is consumed by supervisory and managerial duties, such as writing APRs, counseling personnel, and determining requirements for equipment or supplies. Twenty-three percent of their time is spent in administrative functions; most of the tasks entail filling out various training, inspection, and equipment forms. Those tasks parallel the jobs performed by 7-skill level personnel; over half (52 percent) are Supervisors and Quality Assurance Personnel. Twenty-eight percent are Missile Facilities Maintenance Team Members, but many of these are team trainers, supervising and bringing new members up to the 5-skill level. Therefore, they are also performing many maintenance tasks for instructional purposes. A list of representative tasks performed by these personnel is presented in Table 10.

TABLE 7

AVERAGE PERCENT TIME SPENT ON DUTIES BY DAFSC GROUPS
(PERCENT MEMBERS RESPONDING)

DUTIES	41132A/41152A (N=413)	41172A (N=221)
A. ORGANIZING AND PLANNING	2	13
B. DIRECTING AND IMPLEMENTING	3	12
C. INSPECTING AND EVALUATING	4	18
D. TRAINING	2	8
E. PERFORMING ADMINISTRATIVE FUNCTIONS	9	23
F. MAINTAINING SUPPORT VEHICLES	6	2
G. MAINTAINING GUIDANCE AND CONTROL (G & C) LIQUID COOLING SYSTEMS	1	1
H. MAINTAINING GUIDANCE AND CONTROL CONDITIONING UNIT (GCCU) SYSTEMS	*	*
I. MAINTAINING GCCU TEST EQUIPMENT	*	*
J. MAINTAINING LF AND LCF POWER GENERATION AND DISTRIBUTION SYSTEMS	30	9
K. MAINTAINING MISCELLANEOUS LF AND LCF POWER DISTRIBUTION SYSTEMS	2	1
L. MAINTAINING LF AND LCF ENVIRONMENTAL CONTROL SYSTEMS (ECS)	25	8
M. PERFORMING MISSILE FACILITY MAINTENANCE	9	3
N. PERFORMING GENERAL MAINTENANCE FUNCTIONS	6	3

* Indicates less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

TABLE 8

DISTRIBUTION OF DAFSC GROUP MEMBERS ACROSS CAREER LADDER JOBS
(PERCENT MEMBERS)

JOB AREAS	41132A/41152A (N=413)	41172A (N=221)
Missile Maintenance (ST0019, N=366)	73	28
Shop Maintenance (ST0039, N=52)	10	4
Supervisors & QA (ST0011, N=142)	6	52
Maintenance Control (ST0012, N=46)	5	11
TO Library Personnel (ST0065, N=5)	*	1
Not Grouped (N=29)	5	4

* Indicates less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY COMBINED
DAFSC 41132A AND 41152A AIRMEN
(PERCENT MEMBERS PERFORMING)
(N=413)

TASKS		PERCENT MEMBERS PERFORMING
J422	PERFORM DEU TEST MODE OPERATIONS	70
J421	PERFORM DEU PRESTART CHECKS	70
N746	RAISE OR LOWER EQUIPMENT BY HAND	70
N735	INVENTORY TOOLS	70
J420	PERFORM DEU MANUAL MODE OPERATIONS	70
L532	LEAK CHECK REFRIGERANT SUBSYSTEMS	70
J424	PERFORM MPP SITE INTERFACE CHECKOUTS	69
L515	ADJUST BRINE CHILLER COMPONENTS	69
L520	ADJUST ECS PNEUMATIC ELECTRICAL SWITCHES	69
L522	ADJUST ECS THERMOSTATS	69
L588	SERVICE REFRIGERANT SUBSYSTEMS	69
L519	ADJUST ECS FLOW ALARMS	69
N741	PERFORM MINOR REPAIR ACTIONS, SUCH AS SPLICING WIRES, SOLDERING OR TIGHTENING PARTS	69
L528	ADJUST REFRIGERANT SUBSYSTEM COMPONENTS	69
L591	TROUBLESHOOT BRINE CHILLER CONTROL PANELS	68
J431	PERFORM OPERATIONAL CHECKOUTS OF DEU SAFETY AND ALARM DEVICES	67
J415	ADJUST DEU SAFETY AND ALARM DEVICE COMPONENTS	67
J472	REMOVE OR INSTALL MPP	67
J426	PERFORM OPERATIONAL CHECKOUTS OF DEU BATTERY CHARGERS	67
L540	PERFORM OPERATIONAL CHECKOUTS OF BRINE CHILLER CONTROL SUBSYSTEMS	67
L524	ADJUST INSTRUMENT AIR SYSTEM COMPONENTS	67
J411	ADJUST DEU FUEL OIL SYSTEM COMPONENTS	67
J479	SERVICE DEU COOLING SYSTEMS	66
J427	PERFORM OPERATIONAL CHECKOUTS OF DEU COOLING SYSTEMS	66
L586	SERVICE BRINE SUBSYSTEMS	66
J428	PERFORM OPERATIONAL CHECKOUTS OF DEU FUEL OIL SYSTEMS	66
J481	SERVICE DEU LUBE OIL SYSTEMS	66
J407	ADJUST DEU BATTERY CHARGER COMPONENTS	66
L514	ADJUST AIR-CONDITIONING SUBSYSTEM COMPONENTS, OTHER THAN EMERGENCY SYSTEMS	65
J414	ADJUST DEU LUBE OIL SYSTEM COMPONENTS	65

TABLE 10

REPRESENTATIVE TASKS PERFORMED BY DAFSC 41172A AIRMEN
(PERCENT MEMBERS PERFORMING)
(N=221)

TASKS		PERCENT MEMBERS PERFORMING
B31	COUNSEL PERSONNEL	68
C99	WRITE APRs	67
E153	MAKE ENTRIES ON AF FORMS 623 OR 623A (ON-THE-JOB TRAINING RECORD)	65
E147	MAKE ENTRIES ON AF FORMS 1800 (OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT (GENERAL PURPOSE VEHICLES))	59
E174	MAKE ENTRIES ON LOCAL FORMS	58
C79	INITIATE SAC CEM CHANGES	57
A4	DETERMINE REQUIREMENTS FOR EQUIPMENT OR SUPPLIES	57
C80	INITIATE TO CHANGES	57
E148	MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN IN REQUEST)	57
E162	MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	56
E161	MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	54
A6	DETERMINE WORK PRIORITIES	53
E159	MAKE ENTRIES ON AFTO FORMS 22 (TECHNICAL ORDER SYSTEM PUBLICATION IMPROVEMENT REPORT AND REPLY)	53
A22	REVIEW POLICY CHANGES	53
C83	INSPECT WORK AREAS	52
C93	REVIEW INSPECTION REPORTS	51
A21	REVIEW CORRESPONDENCE	50
A3	COORDINATE MAINTENANCE WITH SPECIALIST WORK CENTERS OR STAFF AGENCIES	50
B52	SUPERVISE MISSILE FACILITIES SPECIALISTS (AFSC 41152A)	50
C82	INSPECT SAFETY EQUIPMENT	50
B45	INVENTORY EQUIPMENT OR SUPPLIES	48
A10	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	48
E156	MAKE ENTRIES ON AF FORMS 797 (JOB QUALIFICATION STANDARD CONTINUATION SHEET)	47
A18	PLAN WORK ASSIGNMENTS	46
C91	PERFORM SELF-INSPECTIONS	45
B54	WRITE CORRESPONDENCE	44
E185	MAKE ENTRIES ON SAC FORMS 86 (SAC CIVIL ENGINEERING MANUAL ICBM RPIE IMPROVEMENT REPORT)	44
E146	MAKE ENTRIES ON AF FORMS 1492 (DANGER)	43
B44	INTERPRET DIRECTIVES FOR SUBORDINATES	43
A8	DEVELOP WORK PROCEDURES	42

Most of the differences between these two skill levels stem from natural career ladder progression. DAFSCs 41132A and 41152A are performing technical tasks, while the 7-skill level assumes the more experienced managerial and supervisory role. Table 11 presents tasks which best reflect these differences between the skill levels.

AFR 39-1 SPECIALTY DESCRIPTION ANALYSIS

Specialty Descriptions are used to give a broad overview of the duties of a career ladder at the different skill levels. AFR 39-1 documents were reviewed for DAFSCs 41112A/32A/52A and 41172A (all dated 15 March 1988). All accurately reflect the jobs at each skill level; AFSCs 41112A/32A/52A specialists are performing the technical tasks required for maintenance of facilities, while the technicians are advising, supervising, training technical tasks, and inspecting.

TRAINING ANALYSIS

Occupational survey data provide one of several sources of information which can be used to make training programs more relevant and meaningful to students. The four most commonly used types of occupational survey information are: (1) the percent of first-enlistment personnel performing tasks covered in the job inventory, (2) ratings of relative difficulty of tasks (TD), (3) the ratings of relative training emphasis (TE) placed on tasks for first-enlistment training, and (4) Automated Training Indicators (ATIs).

These data can be used to evaluate training documents such as the Specialty Training Standard (STS) and the Plan of Instruction (POI). To aid in the review of AFSC 411X2A STS and POI, technical school personnel at Chanute Technical Training Center matched job inventory tasks to appropriate sections of the STS and POI. Comparisons to the training documents were made using these matches with a complete computer listing displaying percent members performing tasks, TE ratings, and TD ratings for each task. The STS and POI matches, along with other detailed computer products, are forwarded to the technical school for further evaluation of the training documents.

Training Emphasis (TE), Task Difficulty (TD) and Automated Training Indicators

TE and TD ratings are factors that can assist technical school personnel in deciding what tasks should be emphasized in entry-level training. TE ratings provided by career ladder subject-matter experts yielded an average rating of 3.14, with a standard deviation of 1.90. Therefore, tasks having a rating of 5.04 (average TE + 1 standard deviation) or higher should be strongly considered for structured training. TD ratings were adjusted so

TABLE 11

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 41132A/41152A AND 41172A PERSONNEL
(PERCENT MEMBERS RESPONDING)

TASKS		41132A/41152A (N=413)	41172A (N=221)
J420	PERFORM DEU MANUAL MODE OPERATIONS	70	29
N746	RAISE OR LOWER EQUIPMENT BY HAND	70	29
J422	PERFORM DEU TEST MODE OPERATIONS	70	29
L588	SERVICE REFRIGERANT SUBSYSTEMS	69	28
J415	ADJUST DEU SAFETY AND ALARM DEVICE COMPONENTS	67	26
J421	PERFORM DEU PRESTART CHECKS	70	30
L532	LEAK CHECK REFRIGERANT SUBSYSTEMS	70	30
J424	PERFORM MPP SITE INTERFACE CHECKOUTS	69	29
L528	ADJUST REFRIGERANT SUBSYSTEM COMPONENTS	69	29
J411	ADJUST DEU FUEL OIL SYSTEM COMPONENTS	67	27
J479	SERVICE DEU COOLING SYSTEMS	66	26
L519	ADJUST ECS FLOW ALARMS	69	30
L520	ADJUST ECS PNEUMATIC ELECTRICAL SWITCHES	69	30
L522	ADJUST ECS THERMOSTATS	69	30
L515	ADJUST BRINE CHILLER COMPONENTS	69	30
J472	REMOVE OR INSTALL MPP	67	28
L524	ADJUST INSTRUMENT AIR SYSTEM COMPONENTS	67	28
L534	PERFORM ECS SHUTDOWNS AND CHECKOUTS	65	26
C99	WRITE APRs	15	67
B31	COUNSEL PERSONNEL	21	68
A21	REVIEW CORRESPONDENCE	6	50
A22	REVIEW POLICY CHANGES	13	53
E153	MAKE ENTRIES ON AF FORMS 623 OR 623A (ON-THE-JOB TRAINING RECORD)	25	65
B54	WRITE CORRESPONDENCE	5	44
B52	SUPERVISE MISSILE FACILITIES SPECIALISTS (AFSC 41152A)	11	50
C93	REVIEW INSPECTION REPORTS	12	51
A3	COORDINATE MAINTENANCE WITH SPECIALIST WORK CENTERS OR STAFF AGENCIES	12	50
A4	DETERMINE REQUIREMENTS FOR EQUIPMENT OR SUPPLIES	20	57
A6	DETERMINE WORK PRIORITIES	17	53
A18	PLAN WORK ASSIGNMENTS	11	46
A10	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	13	48

the average difficulty rating was 5.00, with a standard deviation of 1.00. Tasks with ratings of 3.00 or better are perceived as difficult enough to warrant consideration for centralized training. Table 12 lists those tasks rated highest in task difficulty, and Table 13 indicates tasks performed by first-termers that have a high training emphasis. For a complete discussion of TE and TD, please refer to the Task Factor Administration section of this report.

ATIs provide a guideline for training decisions with an objective, categorical training decision indicator value for a task derived from considerations of percent of members performing, TE and TD ratings, and existing constraints such as criticality and safety. Atch 1, ATCR 52-22, has the guidelines for developing the ATI values and the training decision connected to those values.

Note tasks receiving high ratings in both TE and TD, accompanied by moderate to high percentages of members performing (30 percent or better) in the first-enlistment group, may justify resident training. ATIs help identify these tasks. While reviewing this section of the report, note training decisions are not only weighed against these four factors, but also take into account command concerns, safety standards, and the importance of the task.

First-Enlistment Personnel

Since first-enlistment personnel are the target group for basic resident training programs (i.e., the AFSC 41132A course at Chanute), an analysis of the tasks this group performs can help training personnel develop or review training programs. Other data that can be used are the equipment lists and functional work areas. TD and TE ratings show what experienced NCOs consider to be difficult tasks to learn and tasks important to train.

As discussed before, most first-termers complete the technical training course at Chanute, go through a team training course once they arrive on base, and possess the 5-skill level before they are assigned to a function. The data show 88 percent of first-termers have completed the team training course or are enrolled. First-enlistment personnel wait an average of 69 days at their duty station before they are enrolled in the team training course. This is less than the amount of time second-termers say they waited when in their first enlistment; they were on station an average of 93 days. At the time of the survey, 3 percent of first-termers were waiting to start the team training course at their duty station.

Seventy-one percent possess a 5-skill level, and two-thirds are in the E-3 paygrade. Figure 2 shows the job distribution of first-enlistment personnel; most are assigned to Missile Facilities Maintenance Teams. This is reflected in the amount of time they spend on launch facility and launch control facility power generation systems, power distribution systems, and environmental control systems (see Table 14). Sixty-four percent of their time is spent in these duties, while another 10 percent is spent performing

TABLE 12

EXAMPLES OF TASKS RATED HIGH IN TASK DIFFICULTY

TASKS		TASK DIFF*	PERCENT PERFORMING 1ST ENL	3/5-LEVEL	7-LEVEL
A19	PREPARE CIVILIAN JOB DESCRIPTIONS	7.81	2	1	4
C100	WRITE CIVILIAN PERFORMANCE APPRAISALS	7.61	2	2	1
C99	WRITE APRs	7.54	4	15	67
A9	DRAFT BUDGET REQUIREMENTS	7.47	3	3	12
H386	TROUBLESHOOT GCCU COMPRESSOR ASSEMBLIES	7.24	1	1	4
L533	PERFORM CONDITIONED AIR FLOW BALANCING	7.23	70	62	27
J419	ISOLATE MALFUNCTIONS TO MINUTEMAN POWER PROCESSORS (MPP)	7.22	71	63	28
J464	REMOVE OR INSTALL DEU GENERATOR SETS	7.20	44	39	20
D117	DEVELOP COURSE CURRICULA	7.15	2	4	13
J482	TROUBLESHOOT ASU	7.15	59	53	25
M722	TROUBLESHOOT PAC ECS	7.12	7	8	4
D118	DEVELOP LESSON PLANS	7.11	5	9	20
L570	REMOVE OR INSTALL BRINE CHILLERS	7.10	54	48	20
H387	TROUBLESHOOT GCCU CONDENSER ASSEMBLIES	7.09	1	1	4
H390	TROUBLESHOOT GCCU FINAL CONDITIONING UNITS	7.07	1	1	4
F324	TROUBLESHOOT TE EMPLACEMENT ELECTRICAL SYSTEMS	6.94	8	8	5
M713	TROUBLESHOOT CIV VAULT MOTOR GENERATORS	6.92	1	2	2
L530	DEHYDRATE REFRIGERANT SUBSYSTEMS	6.89	42	37	17
I403	TROUBLESHOOT GCCU TEST BENCHES	6.87	0	1	0
I404	TROUBLESHOOT GCCU TEST SETS	6.87	1	1	0
J487	TROUBLESHOOT DEU EXCITERS	6.81	44	39	19
H359	PERFORM OPERATIONAL CHECKOUTS OF GCCU COMPRESSOR ASSEMBLIES	6.80	2	2	4
L531	EVACUATE REFRIGERANT SUBSYSTEMS	6.77	50	43	18
H388	TROUBLESHOOT GCCU ELECTRICAL ASSEMBLIES	6.75	1	1	4
C102	WRITE STAFF SPECIAL REPORTS	6.74	2	3	9
F310	TROUBLESHOOT PT ECS	6.71	8	7	5
F272	REMOVE OR INSTALL MT ECS COMPONENTS	6.70	2	2	0
H363	PERFORM OPERATIONAL CHECKOUTS OF GCCU FINAL CONDITIONING UNITS	6.69	1	2	3
H369	PERFORM PERIODIC INSPECTIONS OF GCCU FINAL CONDITIONING UNITS	6.69	1	2	3
F323	TROUBLESHOOT TE ECS	6.67	8	8	5
H360	PERFORM OPERATIONAL CHECKOUTS OF GCCU CONDENSER ASSEMBLIES	6.65	2	2	3

* Task Difficulty average is 5.0, with a standard deviation of 1.0

TABLE 13

EXAMPLES OF TASKS RATED HIGH IN TRAINING EMPHASIS
(PERCENT FIRST ENLISTMENT PERFORMING)

TASKS		TNG EMP*	1ST ENL	TASK DIF**
J419	ISOLATE MALFUNCTIONS TO MINUTEMAN POWER PROCESSORS (MPP)	6.81	71	7.22
L532	LEAK CHECK REFRIGERANT SUBSYSTEMS	6.59	80	6.18
L515	ADJUST BRINE CHILLER COMPONENTS	6.56	78	5.79
J482	TROUBLESHOOT ASU	6.54	59	7.15
L514	ADJUST AIR-CONDITIONING SUBSYSTEM COMPONENTS, OTHER THAN EMERGENCY SYSTEMS	6.54	74	5.86
L519	ADJUST ECS FLOW ALARMS	6.54	77	5.77
J424	PERFORM MPP SITE INTERFACE CHECKOUTS	6.52	79	5.86
J484	TROUBLESHOOT DEU BATTERY CHARGERS	6.52	72	6.06
L522	ADJUST ECS THERMOSTATS	6.50	78	5.47
J407	ADJUST DEU BATTERY CHARGER COMPONENTS	6.44	75	6.14
J426	PERFORM OPERATIONAL CHECKOUTS OF DEU BATTERY CHARGERS	6.43	76	5.47
J431	PERFORM OPERATIONAL CHECKOUTS OF DEU SAFETY AND ALARM DEVICES	6.43	77	5.15
J499	VERIFY MPP FAILURE USING POWER SYSTEM VERIFICATION BOXES (PSVB)	6.41	70	5.58
L528	ADJUST REFRIGERANT SUBSYSTEM COMPONENTS	6.41	78	5.86
J493	TROUBLESHOOT DEU SAFETY AND ALARM DEVICES	6.39	73	5.86
J414	ADJUST DEU LUBE OIL SYSTEM COMPONENTS	6.37	74	4.95
L518	ADJUST ECS ELECTRICAL SWITCHES	6.35	68	5.12
L520	ADJUST ECS PNEUMATIC ELECTRICAL SWITCHES	6.35	78	5.37
L529	ADJUST VENTILATION SUBSYSTEMS AND CONTROLS*	6.35	70	5.68
J430	PERFORM OPERATIONAL CHECKOUTS OF DEU LUBE OIL SYSTEMS	6.31	74	4.47
J415	ADJUST DEU SAFETY AND ALARM DEVICE COMPONENTS	6.30	76	5.52
J485	TROUBLESHOOT DEU COOLING SYSTEMS	6.30	70	4.80
L521	ADJUST ECS RESTRICTORS	6.30	72	5.46
J425	PERFORM OPERATIONAL CHECKOUTS OF ASU	6.28	60	5.21
J488	TROUBLESHOOT DEU FUEL OIL SYSTEMS	6.28	69	5.32
L591	TROUBLESHOOT BRINE CHILLER CONTROL PANELS EMERGENCY SYSTEMS	6.28	76	6.17
J496	TROUBLESHOOT MPP BATTERY CHARGER SYSTEM COMPONENTS	6.26	67	5.33
L599	TROUBLESHOOT LF EMERGENCY AIR-CONDITIONING SUBSYSTEMS AND CONTROLS	6.26	63	6.19

* The Training Emphasis average is 3.14, with a standard deviation of 1.90
** Task Difficulty average is 5.0, with a standard deviation of 1.0

AFSC 411X2A FIRST-ENLISTMENT JOBS

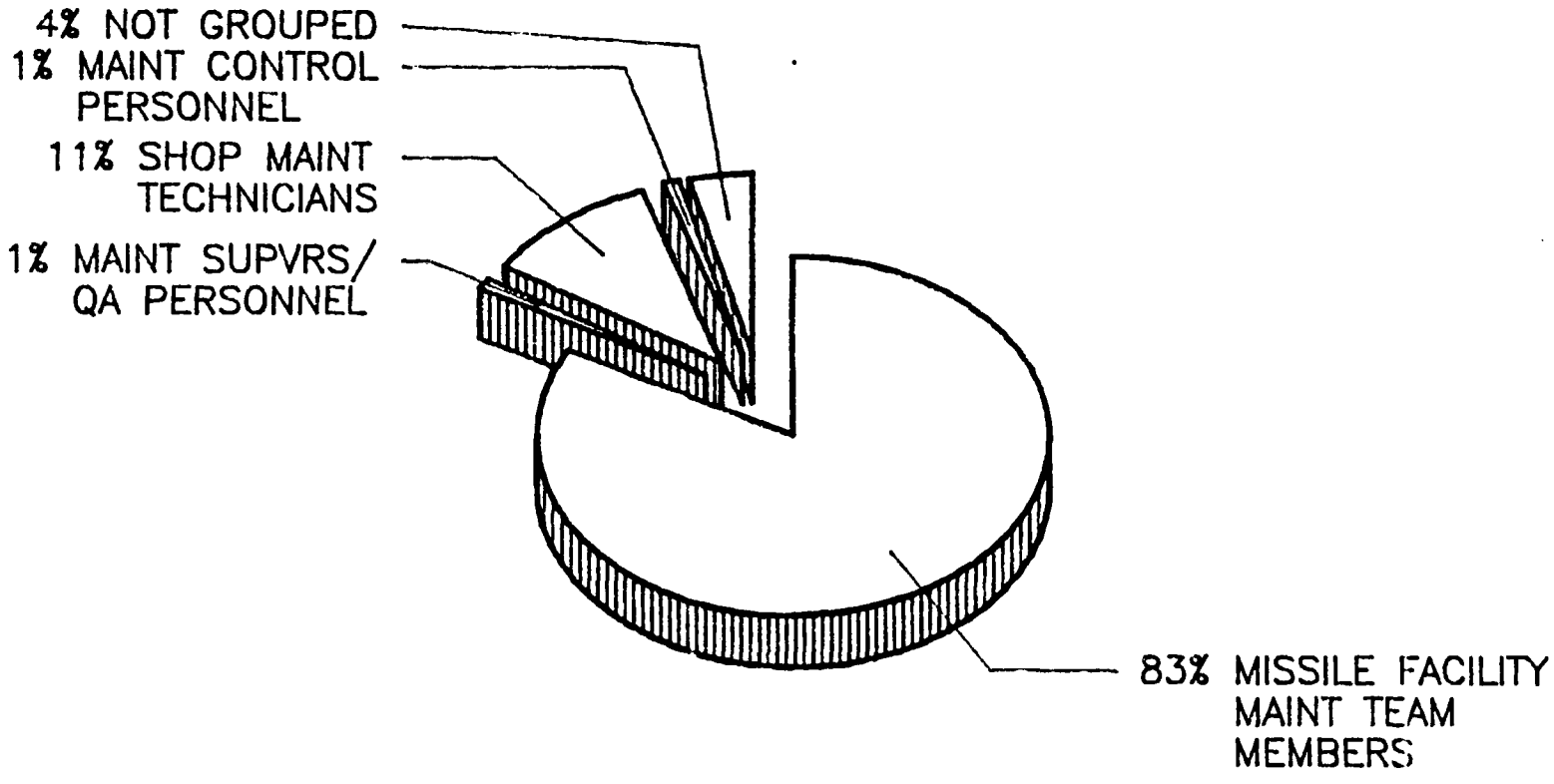

FIGURE 2

TABLE 14

AVERAGE PERCENT TIME SPENT ON DUTIES BY TAFMS GROUPS
(MEMBERS RESPONDING)

DUTY	1-24 MOS (N=156)	1-48 MOS (N=303)	49-96 MOS (N=127)	97+ MOS (N=210)
A. ORGANIZING AND PLANNING	*	1	6	14
B. DIRECTING AND IMPLEMENTING	1	1	6	13
C. INSPECTING AND EVALUATING	2	2	10	18
D. TRAINING	1	1	6	7
E. PERFORMING ADMINISTRATIVE FUNCTIONS	5	6	18	24
F. MAINTAINING SUPPORT VEHICLES	3	6	6	2
G. MAINTAINING GUIDANCE AND CONTROL (G & C) LIQUID COOLING SYSTEMS	1	1	1	*
H. MAINTAINING GUIDANCE AND CONTROL CONDITIONING UNIT (GCCU) SYSTEMS	*	*	1	*
I. MAINTAINING GCCU TEST EQUIPMENT	0	*	*	*
J. MAINTAINING LF AND LCF POWER GENERATION AND DISTRIBUTION SYSTEMS	39	35	18	8
K. MAINTAINING MISCELLANEOUS LF AND LCF POWER DISTRIBUTION SYSTEMS	3	3	2	1
L. MAINTAINING LF AND LCF ENVIRONMENTAL CONTROL SYSTEM (ECS)	30	29	15	7
M. PERFORMING MISSILE FACILITY MAINTENANCE	9	10	7	3
N. PERFORMING GENERAL MAINTENANCE FUNCTIONS	6	6	5	2

* Indicates less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

other missile facility maintenance. Table 15 shows tasks commonly performed by members with 1-48 months time in service. For equipment used by at least half of all first-enlistment personnel, see Table 16.

Specialty Training Standard

A comprehensive review of the STS was conducted by comparing task data to the STS. Subject-matter experts at the technical training school matched tasks to applicable STS areas, then computer products were run on this match. Usually, the percent of members performing these tasks at the first job, first enlistment, 5-skill level and 7-skill level are used to analyze the STS. A paragraph is supported if 20 percent of the members at one of these levels are performing at least one of the tasks matched to that STS area.

With the diversity found within this career ladder, very little support was seen for many areas of the STS, in that less than 20 percent of the criterion groups above were performing matched tasks. Table 17 provides examples of these paragraphs and the percentages of groups performing matched tasks. Most of the paragraphs not represented by 20 percent of members performing were related to the Peacekeeper missile--test equipment, SMSB maintenance, launch facility procedures and maintenance (STS paragraphs 23, 24, 25, and 26). The Peacekeeper is currently only at FE Warren AFB, but it is the new incoming equipment and should be included as part of the STS.

Because of the diversity of this career ladder, an alternate approach was used to review this training document. Instead of using total active federal military service (TAFMS) and DAFSC group data, the percentage of people in each large job cluster was used to review the various paragraphs of the STS. By using this method, as Table 18 shows, many of the job-specific areas in the STS were performed by significant percentages of either the Shop Maintenance Technicians or Missile Facilities Maintenance Team Members. For example, much of the equipment maintenance for the strategic missile support base (SMSB) (STS paragraph 16) is performed by Shop Maintenance Technicians (or PREL), including that for support vans, reentry vehicle guidance and control/PMT vans, payload transporters, transporter erectors, maintenance equipment trailers, portable air-conditioners, elevator work cages and the power and communication distribution box, as well as lead acid, nicad, chloride, and MPP batteries. The percent of members performing these maintenance tasks in the TAFMS and DAFSC groups was under 20 percent, but these duties are performed by a majority of individuals in that particular job cluster. Other duties heavily performed by Shop Maintenance Technicians but representing less than 10 percent of DAFSC or TAFMS groups include SMSB maintenance of the guidance and control cooling system, particularly the 400 Hz liquid cooling pump, refrigerating water chiller unit, control valve assembly, liquid cooler filter and assembly, and the guidance section liquid cooler test set. Missile Facilities Maintenance Team Members supported some paragraphs in launch facility maintenance (STS paragraph 19) and launch control facility maintenance (STS paragraph 20). The training extract provided for the career ladder contains a comprehensive STS match with tasks.

TABLE 15

REPRESENTATIVE TASKS PERFORMED BY DAFSC 411X2A AIRMEN
WITH 1-48 MONTHS TAFMS

TASKS		PERCENT MEMBERS PERFORMING (N=303)
J422	PERFORM DEU TEST MODE OPERATIONS	80
J421	PERFORM DEU PRESTART CHECKS	80
J420	PERFORM DEU MANUAL MODE OPERATIONS	80
N746	RAISE OR LOWER EQUIPMENT BY HAND	80
L532	LEAK CHECK REFRIGERANT SUBSYSTEMS	80
L588	SERVICE REFRIGERANT SUBSYSTEMS	79
J424	PERFORM MPP SITE INTERFACE CHECKOUTS	79
L522	ADJUST ECS THERMOSTATS	78
L515	ADJUST BRINE CHILLER COMPONENTS	78
L520	ADJUST ECS PNEUMATIC ELECTRICAL SWITCHES	78
L528	ADJUST REFRIGERANT SUBSYSTEM COMPONENTS	78
L519	ADJUST ECS FLOW ALARMS	77
N735	INVENTORY TOOLS	77
J472	REMOVE OR INSTALL MPP	77
J431	PERFORM OPERATIONAL CHECKOUTS OF DEU SAFETY AND ALARM DEVICES	77
J426	PERFORM OPERATIONAL CHECKOUTS OF DEU BATTERY CHARGERS	76
J415	ADJUST DEU SAFETY AND ALARM DEVICE COMPONENTS	76
L591	TROUBLESHOOT BRINE CHILLER CONTROL PANELS	76
L524	ADJUST INSTRUMENT AIR SYSTEM COMPONENTS	75
J411	ADJUST DEU FUEL OIL SYSTEM COMPONENTS	75
J479	SERVICE DEU COOLING SYSTEMS	75
J427	PERFORM OPERATIONAL CHECKOUTS OF DEU COOLING SYSTEMS	75
L569	REMOVE OR INSTALL BRINE CHILLER COMPONENTS	75
L540	PERFORM OPERATIONAL CHECKOUTS OF BRINE CHILLER CONTROL SUBSYSTEMS	75
J407	ADJUST DEU BATTERY CHARGER COMPONENTS	75
L514	ADJUST AIR-CONDITIONING SUBSYSTEM COMPONENTS, OTHER THAN EMERGENCY SYSTEMS	74
J476	REMOVE OR INSTALL POWER GENERATION AND DISTRIBUTION SYSTEM MINOR HARDWARE, SUCH AS GASKETS OR BOLTS	74
J481	SERVICE DEU LUBE OIL SYSTEMS	74
J414	ADJUST DEU LUBE OIL SYSTEM COMPONENTS	74
J428	PERFORM OPERATIONAL CHECKOUTS OF DEU FUEL OIL SYSTEMS	74

TABLE 16

EQUIPMENT USED BY 30 PERCENT OR MORE OF FIRST-ENLISTMENT PERSONNEL

EQUIPMENT	PERCENT MEMBERS PERFORMING
MULTIMETERS	95
TEMPERATURE CONTROL TEST SETS	95
CALIBRATED THERMOMETERS	94
TORGUE WRENCHES	94
AMMETERS	93
MANIFOLD GAUGE SETS	92
ELECTRONIC LEAK DETECTORS	91
FREQUENCY METERS	91
PRESSURE GAUGES	90
HYDROMETERS	88
JOHNSON CONTROL KITS	88
BELT ALIGNMENT TOOLS	87
ELECTRIC DRILLS	85
DIFFERENTIAL PRESSURE GAUGES	84
MANOMETERS	84
BATTERY CHARGES	83
POWER SYSTEM VERIFICATION BOXES	83
EMERGENCY BREATHING APPARATUS	82
AIR COMPRESSORS	79
SOLDERING IRONS	79
TENSION GAUGES	77
FAULT LOCATING INDICATORS	72
FUEL TRANSFER PUMPS	71
ELEVATOR WORK CAGES	70
PICK-UP TRUCK	68
DIAL-A-CHARGE	68
REFRIGERANT OIL PUMPS	66
PORTABLE SUMP PUMP KITS	63
PORTABLE HEATERS	62
VIBROGROUNDS	60
GRADUATED CYLINDERS	59
BATTERY LOAD TESTERS	57
DC POWER SUPPLIES	57
PORTABLE HOISTS	55
UTILITY VAN	52
PHASE ROTATION METERS	50
PNEUMATIC TOOLS	49

TABLE 16 (CONTINUED)

EQUIPMENT USED BY 30 PERCENT OR MORE OF FIRST-ENLISTMENT PERSONNEL

EQUIPMENT	PERCENT MEMBERS PERFORMING
VACUUM PUMPS	49
CARRYALL	48
FLOW METERS	47
GAS DETECTORS	44
BRINE BALANCE KITS	41
VEHICLE HOISTS	41
OVERHEAD HOISTS	37
MICRON GAUGES	37
PNEUMATIC CONTROL TEST SETS	35
PMT TRAILER TRACTOR	35
NITROGEN CYLINDERS	34
MEGOHMETERS	31

TABLE 17

STS PARAGRAPHS SHOWING LOW PERCENTAGES OF MEMBERS PERFORMING

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
14c(1).	Checkout WS-133 payload test set coolant unit/ coolant monitor panel							
	M652 Perform periodic inspections of payload test set coolant monitor panels	2.07	4.44	1	1	0	0	10
	M653 Perform periodic inspections of payload test set coolant units	2.07	4.44	1	1	1	0	10
14c(2).	Troubleshoot WS-133 payload test set coolant unit/ coolant monitor panel							
	M725 Troubleshoot payload test set coolant units	2.22	5.92	0	1	0	0	8
	M724 Troubleshoot payload test set coolant monitor panels	2.22	6.07	0	1	0	0	6
14c(3).	Repair WS-133 payload test set coolant unit/ coolant monitor panel							
	M694 Remove or install payload test set coolant monitor components	2.13	5.49	0	1	1	0	8
	M695 Remove or install payload test set coolant monitor panels	2.11	5.49	0	1	0	0	6
16j(1).	Perform periodic inspection of CIV motor generator							
	M626 Perform operational checkouts of CIV vault motor generators	1.72	4.71	2	2	0	1	10

* The Training Emphasis average is 3.14, with a standard deviation of 1.90
** Task Difficulty average is 5.0, with a standard deviation of 1.0

TABLE 17 (CONTINUED)

STS PARAGRAPHS SHOWING LOW PERCENTAGES OF MEMBERS PERFORMING

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5- LVL	7- LVL	MAINT TEAM	SHOP MAINT
16j(2).	Troubleshoot CIV motor generator							
	M638 Perform periodic inspections of CIV vault motor generators	1.89	4.64	1	2	0	1	13
	M713 Troubleshoot CIV vault motor generators	1.93	6.92	1	2	2	0	17
16j(3).	Repair CIV motor generator							
	M607 Adjust code inserter verifier (CIV) vault motor generator components	1.98	5.32	2	3	1	1	13
	M676 Remove or install CIV vault motor generator components	1.74	5.27	1	1	1	0	8
16q(1).	Perform periodic inspection of C310B computer cooling system							
	M627 Perform operational checkouts of C310B computers	1.37	4.29	1	2	1	1	8
	M639 Perform periodic inspections of C310B computer cooling systems	1.61	4.38	1	2	1	1	12
16q(2).	Troubleshoot C310B computer cooling system							
	M714 Troubleshoot C310B computer cooling systems	1.59	6.25	0	2	1	0	13
16q(3).	Repair C310B computer cooling system							
	M677 Remove or install C310B computer chillers	1.44	5.38	1	2	1	1	12

* The Training Emphasis average is 3.14, with a standard deviation of 1.90
** Task Difficulty average is 5.0, with a standard deviation of 1.0

TABLE 17 (CONTINUED)

STS PARAGRAPHS SHOWING LOW PERCENTAGES OF MEMBERS PERFORMING

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
19e(2)(b).	Troubleshoot waste disposal system dewatering pump 104/104A/604							
	M715 Troubleshoot dewatering pumps	1.76	4.77	6	6	4	9	0
19e(2)(c).	Repair troubleshoot waste disposal system dewatering pump 104/104A/604							
	M678 Remove or install dewatering pump components	1.74	4.68	6	6	3	8	0
	M679 Remove or install dewatering pumps	1.72	4.63	7	6	3	8	0
19e(4)(a).	Perform periodic inspection of waste disposal system heat tape							
	M642 Perform periodic inspections of heat tapes	3.17	3.34	14	13	10	20	2
19e(4)(b).	Troubleshoot waste disposal system heat tape							
	M717 Troubleshoot heat tapes	2.54	4.07	13	14	7	18	6
23.	TEST EQUIPMENT							
23b(1).	Checkout guidance and control conditioning unit (GCCU) test set							
	I397 Perform checkout of GCCU test sets with GCCU test benches	1.70	6.43	1	1	0	0	8

* The Training Emphasis average is 3.14, with a standard deviation of 1.90
** Task Difficulty average is 5.0, with a standard deviation of 1.0

TABLE 17 (CONTINUED)

STS PARAGRAPHS SHOWING LOW PERCENTAGES OF MEMBERS PERFORMING

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
23b(2).	Troubleshoot guidance and control conditioning unit (GCCU) test set							
	I404 Troubleshoot GCCU test sets	1.33	6.87	1	1	0	0	6
23b(3).	Repair guidance and control conditioning unit (GCCU) test set							
	I394 Adjust GCCU test set components	1.65	6.22	1	2	0	0	8
	I401 Remove or install GCCU test set components	1.46	5.75	1	1	0	0	6
24.	PEACEKEEPER SMSB MAINTENANCE							
24a(3)(a).	Checkout condenser assembly of guidance and control conditioning unit							
	H360 Perform operational checkouts of GCCU condenser assemblies	1.93	6.65	2	2	3	2	8
	H365 Perform periodic inspections of GCCU compressor assemblies	1.96	6.52	3	3	4	4	8
	H366 Perform periodic inspections of GCCU condenser assemblies	1.96	6.38	2	2	3	3	8
24a(3)(b).	Troubleshoot condenser assembly of guidance and control conditioning unit							
	H387 Troubleshoot GCCU condenser assemblies	1.98	7.09	1	1	4	2	4

* The Training Emphasis average is 3.14, with a standard deviation of 1.90
** Task Difficulty average is 5.0, with a standard deviation of 1.0

TABLE 17 (CONTINUED)

STS PARAGRAPHS SHOWING LOW PERCENTAGES OF MEMBERS PERFORMING

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
24a(3)(c).	Repair condenser assembly of guidance and control conditioning unit							
	H374 Remove or install GCCU condenser assemblies	1.80	6.53	1	1	3	2	4
	H375 Remove or install GCCU condenser assembly components	1.70	6.53	1	2	3	2	6
24b(1).	Checkout elevator workcage hoist assembly							
	M631 Perform operational checkouts of Peacekeeper elevator workcages	2.31	4.58	4	3	2	5	2
24b(2).	Troubleshoot elevator workcage hoist assembly							
	M726 Troubleshoot Peacekeeper elevator work cages	2.02	6.47	2	2	1	3	0
24b(3).	Repair elevator workcage hoist assembly							
	M612 Adjust Peacekeeper elevator work cage components	2.30	5.86	3	2	0	2	6
26.	LAUNCH FACILITY MAINTENANCE							
26b(2).	Troubleshoot guidance and control conditioning unit							
	I398 Perform checkout of GCCU with GCCU test sets	1.72	6.61	1	1	1	1	8
26b(3).	Repair guidance and control conditioning unit							
	H385 Service GCCU	1.56	5.78	1	2	3	2	4

* The Training Emphasis average is 3.14, with a standard deviation of 1.90
** Task Difficulty average is 5.0, with a standard deviation of 1.0

TABLE 18

TRADITIONAL VERSUS ALTERNATE STS ANALYSIS SHOWING SUPPORT BY JOB

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
14.	TEST EQUIPMENT							
14b(1).	Checkout WS-133 guidance and control liquid cooling bench test and repair set							
	G332 Inspect G and C liquid cooling test and repair bench components	3.07	4.92	10	9	5	2	85
	G340 Perform periodic inspections of G and C liquid cooling test sets	2.98	5.25	8	6	4	1	73
14b(2).	Troubleshoot WS-133 guidance and control liquid cooling bench test and repair set							
	G354 Troubleshoot G and C liquid cooling test and repair benches	2.94	6.32	6	6	5	1	65
14b(3).	Repair WS-133 guidance and control liquid cooling bench test and repair set							
	G327 Adjust G and C liquid cooling test and repair bench components	3.28	6.07	7	7	4	0	73
	G329 Calibrate G and C liquid cooling test and repair bench components	2.91	6.23	6	7	5	1	65
	G344 Remove or install G and C liquid cooling test and repair bench components	2.81	5.16	5	6	4	1	58
	G350 Service G and C liquid cooling test and repair benches	2.87	5.29	7	7	5	1	71

TABLE 18 (CONTINUED)

TRADITIONAL VERSUS ALTERNATE STS ANALYSIS SHOWING SUPPORT BY JOB

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
16.	SMSB MAINTENANCE							
16d(2)(a).	Checkout emplacement electrical system of transport erector (TE)							
	F234 Perform operational checkouts of TE emplacement electrical systems	3.89	5.53	8	7	5	1	73
	F235 Perform operational checkouts of TE emplacement panels	3.78	5.37	8	8	5	1	75
	F261 Perform periodic inspections of TE emplacement electrical systems	3.70	5.12	7	6	4	0	71
	F262 Perform periodic inspections of TE emplacement panels	3.59	5.40	7	7	4	0	73
16d(2)(b).	Troubleshoot emplacement electrical system of transporter erector (TE)							
	F324 Troubleshoot TE emplacement electrical systems	3.80	6.94	8	7	5	1	75
16d(2)(c).	Repair emplacement electrical system of transporter erector (TE)							
	F205 Adjust transporter erector (TE) emplacement electrical system components	3.93	6.05	10	10	5	1	85
	F290 Remove or install TE emplacement electrical system components	3.43	5.83	8	7	5	0	75
	F291 Remove or install TE emplacement panel components	3.31	5.68	8	7	5	0	77

TABLE 18 (CONTINUED)

TRADITIONAL VERSUS ALTERNATE STS ANALYSIS SHOWING SUPPORT BY JOB

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
16f(1)(a).	Perform periodic inspection on APU/electrical system of portable air conditioner (PAC)							
	M630 Perform operational checkouts of PAC	3.13	5.62	9	7	4	2	67
	M649 Perform periodic inspections of PAC APU	3.00	5.22	8	7	5	1	79
	M651 Perform periodic inspections of PAC electrical systems	2.96	5.30	8	7	4	0	75
	M705 Service air-conditioner control unit (ACU) batteries	2.67	3.79	5	5	4	1	44
16f(1)(b).	Operate APU/electrical System of portable air-conditioner (PAC)							
	M651 Perform periodic inspections of PAC electrical systems	2.96	5.30	8	7	4	0	75
16f(1)(c).	Troubleshoot APU/electrical System of portable air-conditioner (PAC)							
	M721 Troubleshoot PAC APU	3.26	6.40	7	7	5	1	75
	M723 Troubleshoot PAC electrical systems	3.26	6.23	7	7	4	0	71
16f(1)(d).	Repair APU/electrical System of portable air-conditioner (PAC)							
	M609 Adjust portable air-conditioner (PAC) auxiliary power unit (APU) components	3.56	6.43	10	7	5	2	75
	M610 Adjust PAC electrical system components	3.59	6.09	7	7	5	2	67
	M691 Remove or install PAC APU components	3.07	5.69	7	7	5	0	75
	M693 Remove or install PAC electrical system components	2.94	5.32	6	7	4	0	69
	M706 Service PAC APU	2.96	4.57	7	6	5	1	71
	M707 Service PAC with oil	2.91	3.50	7	6	5	1	73

TABLE 18 (CONTINUED)

TRADITIONAL VERSUS ALTERNATE STS ANALYSIS SHOWING SUPPORT BY JOB

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
16i(1).	Troubleshoot elevator work cage, power and communication distribution box							
	M716 Troubleshoot elevator work cage power and communication distribution boxes	3.20	5.82	17	17	4	19	56
16i(2).	Repair elevator work cage, power and communication distribution box							
	M608 Adjust Minuteman elevator work cage components	2.94	5.40	12	10	5	5	63
	M685 Remove or install Minuteman elevator work cage power and communication distribution box components	3.11	5.52	18	17	11	19	48
17.	SMSB MAINTENANCE OF GUIDANCE AND CONTROL COOLING SYSTEM							
17g(1).	Checkout guidance section liquid cooler test set							
	G335 Perform operational checkouts of G and C liquid cooling test sets	3.11	5.18	9	8	4	1	81
17g(2).	Calibrate guidance section liquid cooler test set							
	G330 Calibrate G and C liquid cooling test sets	2.96	5.90	5	5	3	1	48
17g(3).	Troubleshoot guidance section liquid cooler test set							
	G355 Troubleshoot G and C liquid cooling test sets	2.80	6.33	7	7	3	1	63

TABLE 18 (CONTINUED)

TRADITIONAL VERSUS ALTERNATE STS ANALYSIS SHOWING SUPPORT BY JOB

STS ELEMENTS	TASKS	TNG EMP*	TASK DIFF**	PERCENT MEMBERS PERFORMING 1ST TERM	5-LVL	7-LVL	MAINT TEAM	SHOP MAINT
17g(4).	Repair guidance section liquid cooler test set							
	G345 Remove or install G and C liquid cooling test set components	2.81	5.18	5	6	3	0	56
19.	LAUNCH FACILITY MAINTENANCE							
19d(6)(a).	Troubleshoot electrical power distribution system elevator work cage power and communications distribution box							
	M716 Troubleshoot elevator work cage power and communication distribution boxes	3.20	5.82	17	17	14	19	56
19d(6)(b).	Repair electrical power distribution system elevator work cage power and communications distribution box							
	M685 Remove or install Minuteman elevator work cage power and communication distribution box components	3.11	5.52	18	17	11	19	48

Tasks not matched to the STS (unreferenced) are also examined to determine if the STS is omitting coverage of large numbers of related tasks. Many tasks were supported by TAFMS and DAFSC groups, as well as job clusters. These tasks vary from LF and LCF diesel engine unit and environmental control systems to maintaining remote start units; they are supported by DAFSC and TAFMS groups as well as the Missile Facility Maintenance Team Members job cluster. Several tasks dealing with guidance and control equipment were performed by over 20 percent of the Shop Maintenance Technicians. Examples of these tasks are shown in Table 19. Unreferenced tasks need to be reviewed to determine if they should be covered by the STS.

PLAN OF INSTRUCTION (POI) ANALYSIS

The POI (dated November 1988) for Course E3ABR41132A 000, Missile Facilities Specialist, was reviewed to see if survey data supported it. This was done by matching the tasks to the POI, which personnel in this career ladder accomplished at the Chanute Technical Training Center. Computer products were then run on this match, giving the TE, Automated Training Indicators (ATIs), the TD, and the percent members performing the matched tasks for first-job personnel (1-24 months TAFMS) and first-enlistment personnel (1-48 months TAFMS). Thirty percent of the members in one area must be performing a task matched to that area for the POI section to be supported. However, TE, TD, and the criticality of a task are also important factors to consider when deciding if an item should be taught at the technical school. ATIs provide a guideline, as the value is derived from a consideration of all these factors.

Adequate percentages of first-job and first-term members were performing tasks matched to the POI, with the exception of one paragraph: VIII 3b. Given a simulated safety hazard and an AF Form 457, Hazard Report, prepare the AF Form 457 without error.

In addition, tasks not matched to the POI were reviewed to see if there are many that have high percent members performing (over 30 percent) but are not taught. Example of these tasks are listed in Table 20. Many of these tasks focus on launch facility and launch control facility power generation and distribution systems maintenance, particularly for diesel engine units and Minuteman power processors. Another duty with many unmatched tasks is that of maintaining environmental control facilities of the launch facility and the launch control facility. Members perform tasks related to maintaining air-conditioning and heating units and brine systems. Additionally, members seem to spend a great deal of time working with sump pumps. All of these should be examined to see if they warrant inclusion in the POI.

TABLE 19

TASKS WITH MORE THAN 20 PERCENT MEMBERS PERFORMING NOT MATCHED TO STS ELEMENTS

TASKS		TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL	DAFSC 74151	DAFSC 74171	TASK DIFF**
L518	ADJUST ECS ELECTRICAL SWITCHES	6.35	68	62	28	5.12
L517	ADJUST ECS DAMPERS	6.22	69	62	27	5.18
L516	ADJUST ENVIRONMENTAL CONTROL SYSTEM (ECS) DAMPER OPERATORS	6.20	72	65	28	5.44
J439	PERFORM PERIODIC INSPECTIONS OF DEU CRANKING AND ALARM PANELS	6.09	50	46	23	4.38
L535	PERFORM ECS STARTUPS AND CHECKOUTS	6.06	72	65	26	5.11
J462	REMOVE OR INSTALL DEU GENERATOR COMPONENTS	5.63	57	49	21	5.52
J465	REMOVE OR INSTALL DEU GOVERNOR COMPONENTS	5.63	58	51	24	5.48
J434	PERFORM OPERATIONAL CHECKOUTS OF REMOTE START UNITS (RSU)	5.48	68	55	22	4.46
J498	TROUBLESHOOT RSU	5.46	56	47	21	5.32
J423	PERFORM EMERGENCY WAR ORDER (EWO) EFFECTIVENESS OPERATIONS	4.94	64	56	24	3.50
J477	REMOVE OR INSTALL RSU	4.80	53	46	20	4.56
K512	TROUBLESHOOT LF SITE LIGHTS	4.57	48	43	19	4.94
E181	MAKE ENTRIES ON SAC FORMS 258 (DIESEL RUN LOG)	4.52	58	54	34	3.07
J433	PERFORM OPERATIONAL CHECKOUTS OF MANUAL TRANSFER PANELS	4.52	41	45	13	4.99
M636	PERFORM OPERATIONAL CHECKOUTS OF VENTILATION SAFETY SYSTEMS	4.31	36	32	10	4.59
J449	PERFORM PERIODIC INSPECTIONS OF MANUAL TRANSFER PANELS	4.26	32	30	12	4.82
N747	RAISE OR LOWER EQUIPMENT BY HOIST	4.26	60	54	25	2.47
N746	RAISE OR LOWER EQUIPMENT BY HAND	4.22	80	70	29	2.20
M624	PERFORM LF PARTIAL START-UPS	4.19	39	34	14	4.18
N734	DISPOSE OF WASTE OIL	3.56	51	45	18	3.46

* The Training Emphasis average is 3.14, with a Standard Deviation of 1.90
** Task Difficulty average is 5.0, with a Standard Deviation of 1.0

TABLE 20

SAMPLE OF TASKS NOT MATCHED TO E3ABR41132A 000 POI
(MORE THAN 30 PERCENT PERFORMING)

TASKS		TNG EMP*	TASK DIFF**	PERCENT MEMBERS 1-24 TAFMS (N=156)	PERCENT MEMBERS 1-48 TAFMS (N=303)
M701	REMOVE OR INSTALL SUMP PUMP COMPONENTS	4.61	4.83	48	54
L571	REMOVE OR INSTALL BRINE SUBSYSTEM COMPONENTS	5.46	5.58	66	71
L574	REMOVE OR INSTALL HEATING SUBSYSTEM COMPONENTS	5.43	5.21	52	59
L578	REMOVE OR INSTALL LF EMERGENCY AIR-CONDITIONING SUBSYSTEM COMPONENTS OR CONTROLS	5.46	5.42	55	60
L576	REMOVE OR INSTALL LAUNCH TUBE HEATING SUBSYSTEM COMPONENTS	5.52	5.21	59	64
J462	REMOVE OR INSTALL DEU GENERATOR COMPONENTS	5.63	5.52	54	57
J405	ADJUST AUTOMATIC SWITCHING UNIT (ASU) COMPONENTS	5.74	5.83	60	62
J463	REMOVE OR INSTALL DEU GENERATOR CONTROL PANEL COMPONENTS	5.72	4.93	64	64
J467	REMOVE OR INSTALL DEU LUBE OIL SYSTEM COMPONENTS	5.76	4.97	71	71
J473	REMOVE OR INSTALL MPP BATTERIES	5.74	3.68	76	74
L586	SERVICE BRINE SUBSYSTEMS	5.70	4.37	71	74
J409	ADJUST DEU CRANKING AND ALARM PANEL COMPONENTS	5.80	5.17	69	68
J474	REMOVE OR INSTALL MPP BATTERY CHARGERS	5.83	3.90	73	73
L569	REMOVE OR INSTALL BRINE CHILLER COMPONENTS	5.80	5.51	69	75
J429	PERFORM OPERATIONAL CHECKOUTS OF DEU GENERATOR CONTROL PANELS	6.02	4.76	75	72
J472	REMOVE OR INSTALL MPP	6.00	4.44	79	77
J408	ADJUST DEU COOLING SYSTEM COMPONENTS	6.13	4.68	74	74
L516	ADJUST ENVIRONMENTAL CONTROL SYSTEM (ECS) DAMPER OPERATORS	6.20	5.44	69	72
L517	ADJUST ECS DAMPERS	6.22	5.18	66	69
J414	ADJUST DEU LUBE OIL SYSTEM COMPONENTS	6.37	4.95	76	74
L518	ADJUST ECS ELECTRICAL SWITCHES	6.35	5.12	66	68
M727	TROUBLESHOOT SUMP PUMPS	5.02	5.50	60	64

* The Training Emphasis average is 3.14, with a Standard Deviation of 1.90
** Task Difficulty average is 5.0, with a Standard Deviation of 1.0

JOB SATISFACTION

Another factor included in the surveys sent to respondents is that of job satisfaction. Five questions are examined that will indicate the level to which people are happy with their job: job interest, perceived use of talents, perceived use of training, reenlistment intentions, and satisfaction with the sense of accomplishment on the job. Tables 21, 22, and 23 show these indicators by TAFMS groups as compared to other Mission Equipment Maintenance Personnel surveyed in 1987, TAFMS groups as compared to the 1982 AFSC 445X0G survey sample TAFMS groups, and between job clusters.

Overall, 72 percent of this career ladder feel their jobs are interesting, and 70 percent are happy with the sense of satisfaction gained from their work. Over 80 percent feel both their talents and training are well utilized. Roughly two-thirds of career ladder members plan to reenlist.

When comparing this AFSC with other mission equipment maintenance personnel surveyed in 1987, Missile Facilities Specialists are similar in their level of job satisfaction. Only three indications showed differences in job satisfaction from similar career ladders: first-term Missile Facilities Specialists feel their training is used better, but fewer are planning to reenlist, and career members of this AFSC have fewer members planning to retire than the comparative sample.

Job satisfaction has improved in this career ladder since the last survey was analyzed in 1982. First-termers in particular find their job more interesting, feel their talents and training are being well utilized, are more satisfied with the sense of accomplishment from their jobs, and more are planning to reenlist. Other notable changes since the last survey occurred in the career members group; they find their job more interesting and more plan to reenlist (fewer are retiring).

Those members who find their job most interesting are Maintenance Control Personnel, but Supervisors and QA Personnel and Missile Facilities Maintenance Team Members are similar in this indicator. Least satisfied are Shop Maintenance Technicians. Interestingly enough, Shop Maintenance Technicians are the individuals who feel their talents are used well, while the majority of Maintenance Control Personnel feel their talents are used very little. The latter group also feel their training is not as well utilized as other job clusters and are the least satisfied with the sense of accomplishment gained from their job. Almost all Missile Facilities Maintenance Team Members feel their training is used well, and this group is most satisfied with the sense of accomplishment derived from their job. The most likely to reenlist are Supervisors and QA Personnel; however, these are also senior people and have more time in service than other groups, as do Maintenance Control Personnel (second highest percent saying they will reenlist). Between 50 and 60 percent of Missile Facilities Maintenance Team Members and Shop Maintenance Technicians plan to reenlist; these are more representative of first- and second-termers.

TABLE 21

COMPARISON OF JOB SATISFACTION INDICATORS BY TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)**

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	411X2A (N=303)	COMP SAMPLE* (N=2,187)	411X2A (N=127)	COMP SAMPLE* (N=994)	411X2A (N=210)	COMP SAMPLE* (N=1,613)
EXPRESSED JOB INTEREST:						
INTERESTING	67	72	74	73	78	78
SO-SO	23	17	17	14	14	14
DULL	9	11	8	12	7	8
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECTLY	79	78	83	77	85	82
LITTLE OR NOT AT ALL	20	22	17	22	14	17
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECTLY	92	83	83	81	75	80
LITTLE OR NOT AT ALL	8	17	17	19	24	20
REENLISTMENT INTENTIONS:						
YES, OR PROBABLY YES	47	57	68	67	82	73
NO, OR PROBABLY NO	52	43	32	31	9	11
PLAN TO RETIRE	*	*	0	1	8	16
SATISFACTION WITH SENSE OF ACCOMPLISHMENT:						
SATISFIED	73	70	69	69	67	71
NEITHER SATISFIED NOR DISSATISFIED	16	13	12	11	14	10
DISSATISFIED	11	17	20	20	18	19

* Comparative sample includes Mission Equipment Maintenance personnel surveyed in 1987 (AFSCs 303X1, 303X3, 304X6, 321X1, 427X0, 427X2, 427X3)
** Columns may not add to 100 percent due to rounding

TABLE 22

COMPARISON OF JOB SATISFACTION FOR CURRENT AND PREVIOUS SURVEY DATA
(PERCENT MEMBERS RESPONDING)*

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1988 (N=303)	1982 (N=296)	1988 (N=127)	1982 (N=60)	1988 (N=210)	1982 (N=101)
EXPRESSED JOB INTEREST:						
INTERESTING	67	63	74	73	78	67
SO-SO	23	20	17	18	14	27
DULL	9	17	8	8	7	6
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECTLY	79	72	83	82	85	83
LITTLE OR NOT AT ALL	20	27	17	18	14	17
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECTLY	92	86	83	80	75	77
LITTLE OR NOT AT ALL	8	16	17	20	24	23
REENLISTMENT INTENTIONS:						
YES, OR PROBABLY YES	47	38	68	70	82	71
NO, OR PROBABLY NO	52	61	32	22	9	7
PLAN TO RETIRE	*	0	0	8	8	22
SATISFACTION WITH SENSE OF ACCOMPLISHMENT:						
SATISFIED	73	58	69	65	67	67
NEITHER SATISFIED NOR DISSATISFIED	16	18	12	12	14	16
DISSATISFIED	11	24	20	23	18	17

* Columns may not add to 100 percent due to rounding
NOTE: Data does not include members not responding

TABLE 23

COMPARISON OF JOB SATISFACTION INDICATORS BY CAREER LADDER JOBS
(PERCENT MEMBERS RESPONDING)*

	MISSILE MAINTENANCE (N=366)	SHOP MAINTENANCE (N=52)	SUPERVISORS & QA (N=142)	MAINTENANCE CONTROL (N=46)	TO LIBRARY PERSONNEL (N=5)
EXPRESSED JOB INTEREST:					
INTERESTING	72	62	75	76	80
SO-SO	20	25	14	17	20
DULL	7	12	10	7	0
PERCEIVED USE OF TALENTS:					
FAIRLY WELL TO PERFECTLY	82	88	84	24	80
LITTLE OR NOT AT ALL	17	12	15	76	20
PERCEIVED USE OF TRAINING:					
FAIRLY WELL TO PERFECTLY	94	77	78	52	40
LITTLE OR NOT AT ALL	5	23	21	48	60
REENLISTMENT INTENTIONS:					
YES, OR PROBABLY YES	56	50	80	74	100
NO, OR PROBABLY NO	42	48	11	22	0
PLAN TO RETIRE	1	2	8	4	0
SATISFACTION WITH SENSE OF ACCOMPLISHMENT:					
SATISFIED	73	65	69	59	100
NEITHER SATISFIED NOR DISSATISFIED	15	19	13	17	0
DISSATISFIED	11	13	18	24	0

* Columns may not add to 100 percent due to rounding

IMPLICATIONS

The current STS should be reviewed, particularly those sections with fewer than 20 percent of the members performing matched tasks. In addition, Shop Maintenance Personnel perform very few tasks in common with Maintenance Team Members; other alternatives for these personnel need to be examined, especially the necessity for sending these members through the basic resident training course. There is a long wait of 69 days for first-termers to enter team training once at their duty station; career ladder managers should investigate the reasons for the delay. Job satisfaction has improved for this career ladder since the last survey, and is comparable to other similar mission equipment maintenance personnel.

APPENDIX A

TABLE I

CLUSTER ID NUMBER AND TITLE: ST0019, MISSILE FACILITY MAINTENANCE TEAM MEMBERS
CLUSTER SIZE: 366 AVERAGE TIME IN SERVICE: 46 MONTHS
PREDOMINATE PAYGRADE: E-3 AVERAGE TIME IN CAREER LADDER: 37 MONTHS
PERCENT OF SAMPLE: 57%

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

TASKS		PERCENT MEMBERS PERFORMING
J421	PERFORM DEU PRESTART CHECKS	96
J422	PERFORM DEU TEST MODE OPERATIONS	95
J420	PERFORM DEU MANUAL MODE OPERATIONS	95
J424	PERFORM MPP SITE INTERFACE CHECKOUTS	93
L519	ADJUST ECS FLOW ALARMS	93
L520	ADJUST ECS PNEUMATIC ELECTRICAL SWITCHES	93
J431	PERFORM OPERATIONAL CHECKOUTS OF DEU SAFETY AND ALARM DEVICES	93
J472	REMOVE OR INSTALL MPP	92
J426	PERFORM OPERATIONAL CHECKOUTS OF DEU BATTERY CHARGERS	92
J415	ADJUST DEU SAFETY AND ALARM DEVICE COMPONENTS	92
L524	ADJUST INSTRUMENT AIR SYSTEM COMPONENTS	92
L522	ADJUST ECS THERMOSTATS	92
N746	RAISE OR LOWER EQUIPMENT BY HAND	91
J479	SERVICE DEU COOLING SYSTEMS	91
J427	PERFORM OPERATIONAL CHECKOUTS OF DEU COOLING SYSTEMS	91
L515	ADJUST BRINE CHILLER COMPONENTS	91
L532	LEAK CHECK REFRIGERANT SUBSYSTEMS	91
J411	ADJUST DEU FUEL OIL SYSTEM COMPONENTS	91
J428	PERFORM OPERATIONAL CHECKOUTS OF DEU FUEL OIL SYSTEMS	90
J407	ADJUST DEU BATTERY CHARGER COMPONENTS	90
L528	ADJUST REFRIGERANT SUBSYSTEM COMPONENTS	90
J481	SERVICE DEU LUBE OIL SYSTEMS	90
J473	REMOVE OR INSTALL MPP BATTERIES	90
J430	PERFORM OPERATIONAL CHECKOUTS OF DEU LUBE OIL SYSTEMS	90
L514	ADJUST AIR-CONDITIONING SUBSYSTEM COMPONENTS, OTHER THAN EMERGENCY SYSTEMS	89
J476	REMOVE OR INSTALL POWER GENERATION AND DISTRIBUTION SYSTEM MINOR HARDWARE, SUCH AS GASKETS OR BOLTS	89
L588	SERVICE REFRIGERANT SUBSYSTEMS	89
J493	TROUBLESHOOT DEU SAFETY AND ALARM DEVICES	89
J414	ADJUST DEU LUBE OIL SYSTEM COMPONENTS	89
J408	ADJUST DEU COOLING SYSTEM COMPONENTS	89

TABLE II

CLUSTER ID NUMBER AND TITLE: ST0039, SHOP MAINTENANCE TECHNICIANS
CLUSTER SIZE: 52 AVERAGE TIME IN SERVICE: 54 MONTHS
PREDOMINATE PAYGRADE: E-3/4 AVERAGE TIME IN CAREER LADDER: 46 MONTHS
PERCENT OF SAMPLE: 8%

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

TASKS		PERCENT MEMBERS PERFORMING
N735	INVENTORY TOOLS	88
G331	CLEAN G AND C LIQUID COOLER FILTER ASSEMBLIES	88
F258	PERFORM PERIODIC INSPECTIONS OF SUPPORT VAN HOISTS	88
F203	ADJUST SUPPORT VAN HOIST COMPONENTS	87
F231	PERFORM OPERATIONAL CHECKOUTS OF SUPPORT VAN HOISTS	87
F233	PERFORM OPERATIONAL CHECKOUTS OF TE ECS	87
G337	PERFORM OPERATIONAL CHECKOUTS OF G AND C 400 HERTZ (HZ) LIQUID COOLANT PUMP ASSEMBLIES	87
G334	PERFORM OPERATIONAL CHECKOUTS OF G AND C CHILLER UNITS	87
F297	SERVICE TE ECS	87
F205	ADJUST TRANSPORTER ERECTOR (TE) EMPLACEMENT ELECTRICAL SYSTEM COMPONENTS	85
G332	INSPECT G AND C LIQUID COOLING TEST AND REPAIR BENCH COMPONENTS	85
F287	REMOVE OR INSTALL SUPPORT VAN HOIST COMPONENTS	85
F206	ADJUST TE ECS COMPONENTS	83
F260	PERFORM PERIODIC INSPECTIONS OF TE ECS	83
F321	TROUBLESHOOT SUPPORT VAN HOISTS	83
N736	MAINTAIN HANDTOOLS OR TOOL BOXES	81
F257	PERFORM PERIODIC INSPECTIONS OF SUPPORT VAN ELECTRICAL SYSTEMS	81
G336	PERFORM OPERATIONAL CHECKOUTS OF G AND C MODULATING VALVE ASSEMBLIES	81
G335	PERFORM OPERATIONAL CHECKOUTS OF G AND C LIQUID COOLING TEST SETS	81
F207	ADJUST TE SEMITRAILER ELECTRICAL SYSTEM COMPONENTS	81
N745	PREPARE BRINE SOLUTIONS	81
G333	PERFORM OPERATIONAL CHECKOUTS OF G AND C CHILLER TEST STANDS	79
M650	PERFORM PERIODIC INSPECTIONS OF PAC ECS	79
M649	PERFORM PERIODIC INSPECTIONS OF PAC APU	79
F285	REMOVE OR INSTALL SUPPORT VAN ELECTRICAL SYSTEM COMPONENTS	79
F289	REMOVE OR INSTALL TE ECS COMPONENTS	79
G352	TROUBLESHOOT G AND C CHILLER UNITS	79
E180	MAKE ENTRIES ON SAC FORMS 167 (TOOLBOX INVENTORY)	77

TABLE III

CLUSTER ID NUMBER AND TITLE: ST0011, MAINTENANCE SUPERVISORS AND QUALITY ASSURANCE PERSONNEL
CLUSTER SIZE: 142
PREDOMINATE PAYGRADE: E-6/7
PERCENT OF SAMPLE: 22%
AVERAGE TIME IN SERVICE: 146 MONTHS
AVERAGE TIME IN CAREER LADDER: 103 MONTHS

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

TASKS		PERCENT MEMBERS PERFORMING
B31	COUNSEL PERSONNEL	75
C99	WRITE APRs	70
A4	DETERMINE REQUIREMENTS FOR EQUIPMENT OR SUPPLIES	68
E153	MAKE ENTRIES ON AF FORMS 623 OR 623A (ON-THE-JOB TRAINING RECORD)	66
A22	REVIEW POLICY CHANGES	64
E147	MAKE ENTRIES ON AF FORMS 1800 (OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT (GENERAL PURPOSE VEHICLES))	64
E174	MAKE ENTRIES ON LOCAL FORMS	63
A6	DETERMINE WORK PRIORITIES	62
C93	REVIEW INSPECTION REPORTS	61
C83	INSPECT WORK AREAS	61
A3	COORDINATE MAINTENANCE WITH SPECIALIST WORK CENTERS OR STAFF AGENCIES	61
A21	REVIEW CORRESPONDENCE	60
B45	INVENTORY EQUIPMENT OR SUPPLIES	59
A18	PLAN WORK ASSIGNMENTS	58
C91	PERFORM SELF-INSPECTIONS	57
C79	INITIATE SAC CEM CHANGES	55
C80	INITIATE TO CHANGES	54
A10	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	54
C82	INSPECT SAFETY EQUIPMENT	53
B54	WRITE CORRESPONDENCE	52
B44	INTERPRET DIRECTIVES FOR SUBORDINATES	51
A8	DEVELOP WORK PROCEDURES	51
E148	MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN IN REQUEST)	50
A23	SCHEDULE LEAVES	50
E156	MAKE ENTRIES ON AF FORMS 797 (JOB QUALIFICATION STANDARD CONTINUATION SHEET)	50
B47	PERFORM SUPERVISORY FIELD VISITS	49
E161	MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	48
E162	MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	48
A24	SCHEDULE MAINTENANCE OR MAINTENANCE INSPECTIONS	46

TABLE IV

CLUSTER ID NUMBER AND TITLE: ST0012, MAINTENANCE CONTROL PERSONNEL
CLUSTER SIZE: 46 AVERAGE TIME IN SERVICE: 115 MONTHS
PREDOMINATE PAYGRADE: E-5 AVERAGE TIME IN CAREER LADDER: 89 MONTHS
PERCENT OF SAMPLE: 7%

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

TASKS		PERCENT MEMBERS PERFORMING
E143	ENTER MAINTENANCE DATA INTO EXPANDED MINUTEMAN DATA ANALYSIS SYSTEM (EMDAS)	70
E144	EXTRACT MAINTENANCE DATA FROM EMDAS	65
E174	MAKE ENTRIES ON LOCAL FORMS	59
A6	DETERMINE WORK PRIORITIES	54
A3	COORDINATE MAINTENANCE WITH SPECIALIST WORK CENTERS OR STAFF AGENCIES	43
E153	MAKE ENTRIES ON AF FORMS 623 OR 623A (ON-THE-JOB TRAINING RECORD)	41
E161	MAKE ENTRIES ON AFTO FORMS 349 (MAINTENANCE DATA COLLECTION RECORD)	39
E148	MAKE ENTRIES ON AF FORMS 2005 (ISSUE/TURN IN REQUEST)	35
A4	DETERMINE REQUIREMENTS FOR EQUIPMENT OR SUPPLIES	35
E142	CHECK WRF LISTINGS	33
B36	DISPATCH MAINTENANCE TEAMS	31
A24	SCHEDULE MAINTENANCE OR MAINTENANCE INSPECTIONS	30
E162	MAKE ENTRIES ON AFTO FORMS 350 (REPARABLE ITEM PROCESSING TAG)	30
C99	WRITE APRs	30
E173	MAKE ENTRIES ON JOB CONTROL REPORTS OR LOGS	28
E141	CHANGE WORK REQUIREMENT FILE (WRF) LISTINGS	28
E168	MAKE ENTRIES ON DD FORMS 1348 (DOD SINGLE LINE ITEM REQUISITION SYSTEM DOCUMENT)	26
E145	MAINTAIN PUBLICATION OR TECHNICAL ORDER (TO) FILES	26
A13	PLAN BRIEFINGS	24
E140	BRIEF OR DEBRIEF MAINTENANCE	22
D109	CONDUCT OJT	22
B54	WRITE CORRESPONDENCE	22
B51	SUPERVISE MILITARY PERSONNEL, OTHER THAN AFSC 411X2A	20
B45	INVENTORY EQUIPMENT OR SUPPLIES	17
A21	REVIEW CORRESPONDENCE	17
E171	MAKE ENTRIES ON DD FORMS 1577 (UNSERVICEABLE (CONDEMNED) TAG MATERIEL)	17

TABLE V

INDEPENDENT JOB TYPE ID NUMBER AND TITLE: ST0065, TECHNICAL ORDER LIBRARY PERSONNEL
SIZE: 5 AVERAGE TIME IN SERVICE: 147 MONTHS
PREDOMINATE PAYGRADE: E-6/7 AVERAGE TIME IN CAREER LADDER: 106 MONTHS
PERCENT OF SAMPLE: 1%

THE FOLLOWING ARE IN DESCENDING ORDER BY PERCENT MEMBERS PERFORMING:

TASKS		PERCENT MEMBERS PERFORMING
C87	PERFORM ACTIVITY INSPECTIONS	100
E145	MAINTAIN PUBLICATION OR TECHNICAL ORDER (TO) FILES	80
E158	MAKE ENTRIES ON AFTO FORMS 110 (TECHNICAL ORDER/CPIN DISTRIBUTION RECORD)	80
C72	EVALUATE TO CHANGES	80
C92	REVIEW AFTO FORMS 22 (TECHNICAL ORDER SYSTEM PUBLICATION IMPROVEMENT REPORT AND REPLY	80
C101	WRITE QA REPORTS	80
C96	REVIEW SAC FORMS 86 (SAC CEM REAL PROPERTY INSTALLED EQUIPMENT (RPIE) IMPROVEMENT REPORT)	80
C95	REVIEW PUBLICATION REQUIREMENTS INDEXES (PRI) OR NUMERICAL REQUIREMENTS INDEX TABLES (NIRT)	60
E186	RESEARCH TECHNICAL PUBLICATIONS	60
C70	EVALUATE STRATEGIC AIR COMMAND CIVIL ENGINEERING MANUAL (SAC CEM) CHANGES	60
C73	EVALUATE TIME COMPLIANCE TECHNICAL ORDERS (TCTO)	60
E185	MAKE ENTRIES ON SAC FORMS 86 (SAC CIVIL ENGINEERING MANUAL ICBM RPIE IMPROVEMENT REPORT)	60
E175	MAKE ENTRIES ON REQUISITIONS FOR TECHNICAL PUBLICATIONS	40
E159	MAKE ENTRIES ON AFTO FORMS 22 (TECHNICAL ORDER SYSTEM PUBLICATION IMPROVEMENT REPORT AND REPLY)	40
C59	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	40
C79	INITIATE SAC CEM CHANGES	40
C80	INITIATE TO CHANGES	40